EXAMINATION ANSWER KEY

2002 Quad Cities NRC Exam

December 12, 2002

Docket Nos. 50-254; 50-265
License Nos. DPR-29; DPR-30

1 **ID: Q #1 RO/SRO** **Points: 1.00**

Reactor power is increased from 20 to 100%.
The CRD Flow Control Valve AO 1(2)-0302-06A is in manual.

In order to maintain CRD cooling water flow constant, the NSO will have to manually _____ the CRD Flow Control Valve (AO 1(2)-0301-06A) which will _____ CRD Drive Water Differential Pressure.

A. CLOSE; INCREASE

B. OPEN; DECREASE

C. CLOSE; DECREASE

D. OPEN; INCREASE

Answer: D

Question 1 Details

Question Type:	Multiple Choice
Topic:	Question #1 (RO/SRO) SR-0302-K21
System ID:	
User ID:	Q #1 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LF-0302 R3 pg 15, fig 4
User Text:	201003 A1.01
User Number 1:	3.70
User Number 2:	3.80
Comment:	New question. High Order. With the FCV in manual, it will have to be manually opened as Rx pressure increases to maintain the same Cooling water flow. As the FCV is opened, it will affect CRD drive water pressure because it taps off downstream of the FCV. (NRC exam review. Added differential pressure to stem and changed NOT AFFECT or AFFECT to DECREASE or INCREASE.)

2 **ID: Q #2 RO/SRO** **Points: 1.00**

Rod step 20 has control rods H-10, F-8, H-6 and K-8 with a rod limit from position 08 to 12.

Control rod H-10 is withdrawn to position 12.
Control rod F-8 is withdrawn to position 10.

The NSO then selects control rod H-6, which is currently at position 08.

On the RWM display, control rod H-6 will indicate:

A. red.

B. white.

C. green.

D. cyan.

Answer: C

Question 2 Details

Question Type:	Multiple Choice
Topic:	Question #2 (RO/SRO) SR-0207-K20
System ID:	
User ID:	Q #2 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	1.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 0207-01, R.10, pg. 5
User Text:	201006 A1.03
User Number 1:	2.90
User Number 2:	3.00
Comment:	New question. High Order. Control rods are in red when they are out of sequence, green when they are in the current latched step or selected for rod exercising, white if they are not the rod selected for exercising or not part of the in-sequence step. H-6 should remain green the entire time.

3 **ID: Q #3 RO/SRO** **Points: 1.00**

All RWM blocks are enabled.
The NSO is performing QCGP 1-1, NORMAL UNIT STARTUP.
Rod step one contains control rods H-1, F-1, D-2, B-4, A-6, A-8, A-10, B-12, D-14, F-15, H-15, K-15, M-14, P-12, R-10, R-8, R-6, P-4, M-2, K-1.
Control rods H-1, F-1 and D-2 are fully withdrawn.

How would the RWM respond if B-5 pushbutton was depressed and attempted to be withdrawn?

A. RWM withdrawal block would prevent rod motion when the control rod reached position 02.

B. RWM select block would prevent rod motion.

C. RWM would allow the rod to be moved until low power setpoint was reached.

D. RWM would prevent the rod from being selected.

Answer: B

Question 3 Details

Question Type:	Multiple Choice
Topic:	Question #3 (RO/SRO) SR-0207-K20
System ID:	
User ID:	Q #3 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCGP 1-1, R 43, pg. 38-40
User Text:	201006A3.02
User Number 1:	3.50
User Number 2:	3.40
Comment:	New question. High Order. When an incorrect rod is selected, the RWM will issue a select block. A withdrawal block will be issued when the OOS rod is withdrawn 1 notch. The Mode Switch cannot be in SHUTDOWN and moving rods. When in REFUEL, a rod block is issued when the 2nd rod is selected with a rod withdrawn.

4 **ID: Q #4 RO/SRO** **Points: 1.00**

Unit 2 is operating at 100% power in a normal electrical line-up when the reactor scrams and the auxiliary power transfer fails.

Which of the following components are de-energized?

A. 2A Recirculation Motor Generator Set

B. 2A Condensate/Condensate Booster Pump

C. 2B Recirculation Motor Generator Set

D. 2B Condensate/Condensate Booster Pump

Answer: A

Question 4 Details

Question Type:	Multiple Choice
Topic:	Question #4 (RO/SRO) SR-0202-K19
System ID:	
User ID:	Q #4 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QOA 6500-01, r. 6, pg 1,2
User Text:	202001 K2.02
User Number 1:	3.20
User Number 2:	3.30
Comment:	New question. High Order. T-21 supplies Busses 21 and 24, which auto xfer to T-22 on Gen trip. 2A Recirc MG is power from bus 21, 2B from bus 22. 2A and 2B Cond/Cond Booster pumps are powered from Bus 23.

5 **ID: Q #5 RO/SRO** **Points: 1.00**

Unit 1 was operating at full power when a plant casualty occurred.
Unit 1 scrammed as a result of the transient.
The Unit NSO noted that U1 HPCI started automatically while U1 RCIC remained in a standby lineup as expected.
Both Unit 1 and the 1/2 Emergency Diesel Generators (EDGs) started automatically but the Unit 1 EDG TRIPPED on an overspeed condition.
Bus 13-1 has tripped on overcurrent.

Assuming all equipment was in a normal operating configuration prior to the transient, and that the remaining auto actions occurred, what is the expected status of Unit 1 RHR pumps?

	A & B	C & D
A.	OFF	OFF
B.	OFF	RUNNING
C.	RUNNING	OFF
D.	RUNNING	RUNNING

Answer: B

Question 5 Details

Question Type:	Multiple Choice
Topic:	Question #5 (RO/SRO) S/R-1000-K19
System ID:	
User ID:	Q #5 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	2
Point Value:	1.00
Cross Reference:	LF-1000, R.6, pg 62
User Text:	203000 K2.01
User Number 1:	3.50
User Number 2:	3.50
Comment:	Bank question. High Order. 1A and 1C RHR pumps are powered from Bus 13-1, which never lost power from Transformer 12. The EDGs auto started on 2.5 psig, but would not have loaded to busses 13-1 and 14-1. 1C and 1D RHR pumps are powered from bus 14-1, which never lost power from Transformer 11 then 12. (Added bus 13-1 trip from NRC exam review)

6 **ID: Q #6 RO/SRO** **Points: 1.00**

The HPCI Flow Controller is powered from:

A. Instrument Bus.

B. 250 VDC.

C. Essential Service.

D. 125 VDC.

Answer: C

Question 6 Details

Question Type:	Multiple Choice
Topic:	Question #6 (RO/SRO) SR-2300-K19
System ID:	
User ID:	Q #6 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LN-2300, R. 10, pg. 56
User Text:	206000 K2.04
User Number 1:	2.50
User Number 2:	2.70
Comment:	New question. Fundamental. 125 VDC powers the initiation logic, 250 VDC powers the valves, Instrument Bus powers nothing on HPCI.

7 **ID: Q #7 RO/SRO** **Points: 1.00**

Annunciator 902-3 D-5, CORE SPRAY SYS 2 BUS/LOGIC PWR FAILURE is up on Unit 2.

(NOTE: During the Exam, clarification was given that the alarm referred to loss of LOGIC power.)

A casualty occurs on Unit 2 resulting in the following conditions:

RPV water	-150 inches and lowering.
Reactor pressure	300 psig and lowering.
Drywell pressure	8 psig and rising.

At this point in this event, predict how the Unit 2 Core Spray system has responded and describe any actions required to restore it.

A. "B" loop will auto-initiate and inject, while "A" loop will NOT auto-initiate, but may be manually started locally.

Manually initiate Core Spray Subsystem 2A and restore Core Spray Subsystem 2B 125 VDC control power.

B. "A" loop will auto-initiate and inject, while "B" loop will NOT auto-initiate, and can not be manually started from the Control Room or locally.

Manually start the Unit 2 Diesel Generator, verify it energizes Bus 24-1, manually initiate Core Spray Subsystem 2B and restore Core Spray Subsystem 2B 125 VDC control power.

C. "A" loop will auto-initiate and inject, while "B" loop will NOT auto-initiate, but may be manually started locally.

Manually initiate Core Spray Subsystem 2B and restore Core Spray Subsystem 2B 125 VDC control power.

D. "B" loop will auto-initiate and inject, while "A" loop will NOT auto-initiate, but may be manually started locally.

Manually start the Unit 2 Diesel Generator, verify it energizes Bus 24-1, manually initiate Core Spray Subsystem 2B and restore Core Spray Subsystem 2B 125 VDC control power.

Answer: C

Question 7 Details

Question Type:	Multiple Choice
Topic:	Question #7 (RO/SRO) SR-1400-K26
System ID:	
User ID:	Q #7 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOA 1400-02, R. 7
User Text:	209001 A2.04
User Number 1:	2.90
User Number 2:	3.00
Comment:	Modified question. High Order. With "2B" 125 VDC out, initiation logic for "B" loop is out but still has power to the pumps and components. "A" loop is unaffected. The EDG should auto start and load on the loss of Bus 24-1, so it should not need to be manually started. (blanked out auto action section in provided procedure per NRC exam review)

8 **ID: Q #8 RO/SRO** **Points: 1.00**

If the reactor mode switch is in RUN, which ONE of the following conditions will cause either a half scram or a full scram?

A. Reactor power is 10% , Main Steam Isolation Valves 1C & 2D are both closed.

B. Reactor power is 10% , Turbine Stop Valves 3 & 4 are both closed.

C. Reactor power is 45% , Main Steam Isolation Valves 1A & 1D are both closed.

D. Reactor power is 45% , Turbine Stop Valves 2 & 3 are both closed.

Answer: A

Question 8 Details

Question Type:	Multiple Choice
Topic:	Question #8 (RO/SRO) SR-0500-K07
System ID:	
User ID:	Q #8 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LF-0500, R. 6, pg 44-51
User Text:	212000 K5.02
User Number 1:	3.30
User Number 2:	3.40
Comment:	Modified question. High Order. MSIVs A and D and TSV 2 and 3 and 1 and 4 meet the "5" alive requirement. MSIVs C and D do not meet this, so a 1/2 scram would result. At 10% power, Turbine Stop Valves would not cause a 1/2 scram. (changed from bank to modified based on NRC exam review)

9 **ID: Q #9 RO/SRO** **Points: 1.00**

A reactor scram occured on Unit 2 approximately 1 minute ago.
The scram has NOT been reset.

The NSO can verify all rods in by noting that individual rod position is indicating:

A. a green double dash.

B. an orange double dash.

C. a green 00.

D. an orange 00.

Answer: A

Question 9 Details

Question Type:	Multiple Choice
Topic:	Question #9 (RO/SRO) SR-0280-K20
System ID:	
User ID:	Q #9 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-0280, R. 6, pg. 7
User Text:	214000 A4.02
User Number 1:	3.80
User Number 2:	3.80
Comment:	New Question. Fundamental. Post scram indication is a green double dash until the scram is reset, at which time the indication turns to an orange double 00 and then to a green 00.

10 **ID: Q #10 RO/SRO** **Points: 1.00**

The operator is withdrawing a control rod which is part of the current latched step.
The limits of the step and the bounds of the control rod being withdrawn is 00 - 48.
The operator withdraws the rod one notch and notices that the selected rod indicates ?? on the RWM display.

Which of the following statements best describes the RWM system condition as it stands right now?

A. The RWM immediately declares the rod OOS and allows the operator to continue with rod movement on the next rod in the sequence.

B. The RWM will immediately initiate a full core scan and if proper position information is not obtained on the next scan, the RWM will consider itself failed and block all rod movements.

C. The RWM system will immediately block all movement of the rod that indicates ?? until a substitute position is entered. No other rods are effected by this event.

D. The rod is treated just like a withdraw error. Insert and withdrawal blocks are applied to all other rods and a withdrawal block is applied to the selected rod once it reaches a known position.

Answer: D

Question 10 Details

Question Type:	Multiple Choice
Topic:	Question #10 (RO/SRO) SR-0280-K22
System ID:	
User ID:	Q #10 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC 0207-01, R.6, pg. 31
User Text:	214000 K3.01
User Number 1:	3.00
User Number 2:	3.20
Comment:	Bank question. High Order. Dist #1 & 2 - You are still allowed to move the affected rod. Dist #3 - The RWM does not automatically put rods OOS. With a loss of RPIS for a given rod position, the RWM will display a ??.

11 **ID: Q #11 RO/SRO** **Points: 1.00**

The plant is operating at 100% power and a Traversing In-Core Probe (TIP) trace is in progress. A spurious reactor scram occurs and reactor water level decreases to -10 inches and then recovers.

IDENTIFY the response of the TIP system.

A. The TIP system will continue the trace without interruption.

B. The TIP system automatically withdraws and the shear valve fires if the ball valve fails to shut.

C. The TIP system automatically withdraws and the ball valve shuts.

D. The shear valve automatically fires.

Answer: C

Question 11 Details

Question Type:	Multiple Choice
Topic:	Question #11 (RO/SRO) SR-0704-K12
System ID:	
User ID:	Q #11 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCAN901-5 A-8 r11
User Text:	215001K4.01
User Number 1:	3.40
User Number 2:	3.50
Comment:	ILT.01885 (75987) Bank question. High Order. At 0", the TIPS auto withdraw and the Ball valve closes. Shear valves do not auto fire. (supplied better reference for group II, 0" automatic actions per NRC exam review)

12 **ID: Q #12 RO/SRO** **Points: 1.00**

With Unit One at 50% power, the NSO selects rod D-9 for withdrawal.

The following indications are observed on the 4 Rod Display:

Two bypass lights are lit for "A" level selected LPRMs.
Two bypass lights are lit for "B" level selected LPRMs
One bypass light is lit for "C" level selected LPRMs.
Three bypass lights are lit for "D" level selected LPRMs.

Will the operator be able to withdraw control rod D-9 with the present plant conditions?

A. No, RBM 7 is INOP due to less than 50% of it's assigned inputs.

B. Yes, RBM 7 is automatically bypassed due to too few inputs.

C. No, RBM 8 is INOP due to less than 50% of it's assigned inputs.

D. Yes, RBM 8 is automatically bypassed due to too few inputs.

Answer: C

Question 12 Details

Question Type:	Multiple Choice
Topic:	Question #12 (RO/SRO) SR-0705-K21
System ID:	
User ID:	Q #12 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-0700-5, R. 4, pg. 20
User Text:	215002K6.05
User Number 1:	2.80
User Number 2:	3.10
Comment:	LWQ.00082 (82500) Modified bank question. High Order. 50% of LPRM inputs to a RBM inop will inop the RBM. A and C LPRMs feed RBM 7, B and D LPRMs feed RBM 8. RBMs are not auto bypassed due to too few inputs, must be manually bypassed.

13 **ID: Q #13 RO/SRO** **Points: 1.00**

A plant startup is in progress with all IRMs on Range 1 and the Mode Switch is in the Startup/Hot STBY position.

Which ONE of the following describes the operation of the SRM instruments with all of the shorting links **removed**?

A FULL Reactor Scram will occur if SRM...

A. 21 and 23 BOTH reach 1 X 10E5 CPS.

B. 22 goes less than 100 CPS.

C. 23 is WITHDRAWN from the core.

D. 24 reaches 5 X 10E5 CPS.

Answer: D

Question 13 Details

Question Type:	Multiple Choice
Topic:	Question #13 (RO/SRO) SR-0701-K22
System ID:	
User ID:	Q #13 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-0701, R. 5, pg. 16
User Text:	215004K4.02
User Number 1:	3.40
User Number 2:	3.50
Comment:	ILT.01906 (76006) Bank question. Fundamental. The only scram signal for SRMs is one or more SRMs at 5 X 10E5 CPS with shorting links removed. The other distractors give SRM rod blocks.

14 **ID: Q #14 RO/SRO** **Points: 1.00**

A Unit 1 startup is in progress.

SRM's are fully inserted and reading approximately 10,000 cps when annunciator 901-5 A-4, "SRM HIGH OR INOP", alarms and the associated rod block occurs.

The NSO observes that SRM 21 is now reading approximately 5,000 cps, while SRM's 22, 23 and 24 are still indicating 10,000 cps.

Which of the following operations / malfunctions could explain the observed indications?

A. SRM 21 high voltage power supply is low.

B. SRM 21 is automatically withdrawing from the core.

C. SRM 21 "INOP INHIBIT" pushbutton on the 901-36 panel is depressed.

D. 24/48 VDC Bus A voltage is low.

Answer: A

Question 14 Details

Question Type:	Multiple Choice
Topic:	Question #14 (RO/SRO) SR-0701-K15
System ID:	
User ID:	Q #14 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	1
Point Value:	1.00
Cross Reference:	LIC-0701, R. 5, pg. 3-5
User Text:	215004K6.04
User Number 1:	2.90
User Number 2:	2.90
Comment:	ILT.11627 : 81138 Bank question. Fundamental. A low high voltage power supply to an SRM will cause erratic operation. A loss of 24/48 VDC A will cause SRMs 21 and 22 to fail downscale. SRMs do not auto withdraw. INOP INHIBIT pushbutton bypasses the INOP trip while testing. (added SRM 21 to answer and one other distractor per NRC exam review)

15 **ID: Q #15 RO/SRO** **Points: 1.00**

Which of the following would constitute the MAXIMUM disagreement between APRM flow converter channels that would still allow control rod withdrawal?

A. 17%

B. 11%

C. 9%

D. 5%

Answer: C

Question 15 Details

Question Type:	Multiple Choice
Topic:	Question #15 (RO/SRO) SR-0703-K09
System ID:	
User ID:	Q #15 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCAN 901-5 D-6, R. 2
User Text:	215005A3.06
User Number 1:	3.00
User Number 2:	3.10
Comment:	ILT.00877 (75358) New question. Fundamental. Alarm comes in at 10%, so 9% is the highest you can have without getting the rod block.

16 **ID: Q #16 RO/SRO** **Points: 1.00**

Given:

- RVLIS backfill has been secured for 18 days.
- The RPV has rapidly depressurized from 1003 psig due to a steam leak in the drywell.
- Drywell temperature is 235 degrees F.
- RPV pressure is 275 psig and slowly lowering.

  - Pressure corrected lower wide range instruments indicate -10 inches and lowering.
  - Narrow range instruments indicate +10 inches and steady.

What is the status of Rx level instrumentation and which of the following conditions can be used to determine RPV water level is > -68 inches if the recirc pumps are off?

Reactor water level instrumentation...

A. will become inaccurate when pressure drops below 250 psig; determine level > -68 inches by indicated level lowering on the narrow range instruments.

B. will become inaccurate when pressure drops below 250 psig; determine level > -68 inches by indicated level rising on the upper wide range instrument.

C. became inaccurate when pressure dropped below 450 psig; determine level > -68 inches by indicated level lowering on the narrow range instruments.

D. became inaccurate when pressure dropped below 450 psig; determine level > -68 inches by indicated level rising on the lower wide range instruments.

Answer: C

Question 16 Details

Question Type:	Multiple Choice
Topic:	Question #16 (RO/SRO) SR-0263K22
System ID:	
User ID:	Q #16 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 0201-11, R.4 pg. 1-3
User Text:	216000A2.10
User Number 1:	3.30
User Number 2:	3.50
Comment:	L.00637 (82648) New question. Higher Pressure at which gassing occurs is 450 psig not 250. Level is proved above -68" by a decreasing trend only, not increasing. (blanked out "450" from procedure provided and added "Reactor water level instrumentation" to stem per NRC exam review)

17 **ID: Q #17 RO/SRO** **Points: 1.00**

Unit One is operating at full power when a loss of Bus 18 occurs.
Shortly afterwards, a loss of the 250 VDC system occurs.

Predict the effect on the 901-5 panel reactor water level instrumentation.

A. All Medium range level insturmentation will be downscale.

B. All level instruments will still be available.

C. All Narrow range level instrumentation will be downscale.

D. Only Wide range level instrumentation will be available.

Answer: B

Question 17 Details

Question Type:	Multiple Choice
Topic:	Question #17 (RO/SRO) SRN-6800-K23
System ID:	
User ID:	Q #17 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LN-6800 pg. 1, fig. 2
User Text:	216000K6.02
User Number 1:	2.80
User Number 2:	3.00
Comment:	New. High Order. Loss of Bus 18 removes 2 of the 4 power sources from the ESS system. Loss of 250 VDC removes one more source. ESS still receives power from the static switch without power interruption that keeps instrumentation on line without change.

18 **ID: Q #18 RO/SRO** **Points: 1.00**

RCIC automatically started and is maintaining reactor water level at -40 inches.
Annunciator 901-4 F-15 "RCIC TURBINE BEARING OIL PRESSURE LOW" is alarming.
The Unit One NLO reports that RCIC lube oil pressure is 3 psig decreasing despite efforts to restore pressure.
Oil levels are all normal.

Continued operation of RCIC in this condition will result in reactor water level:

A. decreasing due to RCIC trip on overspeed from the governor valve failing open.

B. maintaining due to the RCIC emergency oil pump auto starting.

C. decreasing due to RCIC low oil pressure trip.

D. maintaining due to ALL RCIC trips, except overspeed, being bypassed on an autostart.

Answer: A

Question 18 Details

Question Type:	Multiple Choice
Topic:	Question #18 (RO/SRO) SR-1300-K22
System ID:	
User ID:	Q #18 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOA 1300-04 R8
User Text:	217000K3.01
User Number 1:	3.70
User Number 2:	3.70
Comment:	Modified question. High Order Answer is correct due to governor valve failing open as oil pressure decreases will cause a turbine trip on overspeed. RCIC trips are never bypassed. Turbine bearing high temperature is not a trip. Unlike HPCI, RCIC does not have an emergency oil pump. References QCAN 901-4 F-15 rev 1, QCOA 1300-04 rev 8. (added RCIC as identifier to distractors, added "except overspeed" to another, and changed third to "RCIC low oil pressure trip" per NRC exam review)

19 **ID: Q #19 RO/SRO** **Points: 1.00**

A Group II isolation will occur if the Unit One Drywell reaches _____, and this may be bypassed to allow opening the 2" vent valve to SBGTS by a keylock switch on the _____.

A. 1.55 psig; 901-5 panel

B. 1.55 psig; 912-1 panel

C. 2.5 psig; 901-5 panel

D. 2.5 psig; 912-1 panel

Answer: C

Question 19 Details

Question Type:	Multiple Choice
Topic:	Question #19 (RO/SRO) SR-1602-K11
System ID:	
User ID:	Q #19 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	901(2)-5 D-11, R. 7 pg. 1
User Text:	223001K1.09
User Number 1:	3.40
User Number 2:	3.60
Comment:	ILT.04298 (77115) Bank question. Fundamental. These are Gp 2 valves, the Gp 2 comes in at 2.5 psig. The keylock switch is on th 901-5 panel. (Moved "keylock switch on the" into the stem per NRC exam review) LIC-1602, pg. 74

20 **ID: Q #20 RO/SRO** **Points: 1.00**

Torus sprays are being tested on Unit One when a recirc system leak results in a Rx Scram and entry into the QGAs.
The ANSO has started Torus Sprays, Torus Cooling and RHR Service Water.
The MO-1-1001-16A, RHR Hx Bypass Valve is fully closed.
The NSO also notes that the maximum RHR service water flow with the MO-1-1001-5A, RHR Hx SW Disch Valve, full open is 2500 gpm at a discharge pressure of 275 psig.

What action(s) should be taken per QCOP 1000-04, RHRSW System Operation?

A. Stop the RHR Service Water pump and reverse heat exchanger flow.

B. Cross connect the "A" and "B" RHR Service Water loops.

C. Start a 2nd RHR Service Water Pump.

D. Secure Torus sprays.

Answer: A

Question 20 Details

Question Type:	Multiple Choice
Topic:	Question #20 (RO/SRO) S/R-1000-K22
System ID:	
User ID:	Q #20 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	2
Point Value:	1.00
Cross Reference:	QCOP 100-04, R. 14, D.1
User Text:	230000K5.06
User Number 1:	2.50
User Number 2:	2.60
Comment:	New question. High Order. Indications of HX fouling. RHRSW pump discharge pressure is higher than TS minimum, so do not suspect RHRSW pump failure. If Torus sprays are on the "A" loop, start them on the "B" loop. Cannot crossconnect "A" and "B" RHR SW loops. (deleted "only" and added procedure reference to stem per NRC exam review)

21 **ID: Q #21 RO/SRO** **Points: 1.00**

A transient occured on Unit 1 resulting in a reactor scram and a Group 2 isolation.
The Inboard MSIVs are closed.
Drywell pneumatic receiver pressure is 75 psig.
The ANSO places the Target Rock Relief Valve Control Switch to "MANUAL"
(NOTE: During the exam, clarification was given that Nitrogen makeup was for drywell pneumatics.)

Which of the following supplies will provide motive force for Target Rock Relief Valve operation?

1. Drywell pneumatic compressors
2. Drywell pneumatic receiver
3. Relief Valve accumulator
4. Nitrogen Makeup System

A. 1, 2, and 3 ONLY

B. 2 and 4 ONLY

C. 2, 3, and 4 ONLY

D. 3 and 4 ONLY

Answer: D

Question 21 Details

Question Type:	Multiple Choice
Topic:	Question #21 (RO/SRO) SR-0203-K19a
System ID:	
User ID:	Q #21 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LF-46/4700,pg, 56, fig 15
User Text:	239002A1.03
User Number 1:	2.80
User Number 2:	2.90
Comment:	New question. High Order. The DW Pnuematic compressors will be isolated on the Gp 2. The N2 reciever makeup valve opens at 82 psig, which will cause the recievers to be out of the picture because of the higher pressure and the check valve. The accumulator will still be effective. (deleted "target rock" from #3 and fixed typo "places" and added 901(2) A8 as a reference per NRC exam review)

22 **ID: Q #22 RO/SRO** **Points: 1.00**

Unit 2 has experienced a Group 1 isolation and reactor scram.

The ANSO reports that ALL relief valve indicating lights on the 902-3 panel are EXTINGUISHED.

Without operator action, Reactor pressure will increase until a...

A. relief valve opens at 1115 psig.

B. relief valve opens at 1135 psig.

C. safety valve opens at 1240 psig.

D. safety valve opens at 1250 psig.

Answer: B

Question 22 Details

Question Type:	Multiple Choice
Topic:	Question #22 (RO/SRO) SR-0203-K23
System ID:	
User ID:	Q #22 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	3
Point Value:	1.00
Cross Reference:	LIC 0203, pg, 3 & 8.
User Text:	239002K3.02
User Number 1:	4.20
User Number 2:	4.40
Comment:	New question. High Order. Target rock safety feature is set at 1135 psig. All lights being extinquished means that control power is de-energized and valves will only lift on pressure relief setpoint. (deleted reference to target rock or number of safety valves replaced with "a" in stem per NRC exam review)

23 **ID: Q #23 RO/SRO** **Points: 1.00**

Unit 2 is operating at rated conditions.
An operating RFP trips.

Which of the following describes the plant response with no operator action?

A. When reactor water level reaches 26 inches within 45 seconds, the recirc pumps will runback to minimum.

B. When reactor water level reaches 26 inches within 45 seconds, the recirc pumps will runback to 70%.

C. The recirc pumps will runback to 70% immediately.

D. The recirc pumps will runback to minimum immediately.

Answer: B

Question 23 Details

Question Type:	Multiple Choice
Topic:	Question #23 (RO/SRO) SR-0202-K23
System ID:	
User ID:	Q #23 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCAN 902-4 F-7 R1
User Text:	259002K1.15
User Number 1:	3.20
User Number 2:	3.20
Comment:	New question. High Order. The FWLC system will runback to 70% rated core flow if < 3 RFPs are running due to an auto-trip if RPV water level < 26 inches within 45 seconds and steam flow > 85%. At rated conditions, 3 RFPs are required and steam flow > 85%. QCAN 902-4 F-7 rev 1, QCOP 0600-21 rev 1 (added "with no operator action" to stem and changed "if" to "when" in distractors per NRC exam review)

24 **ID: Q #24 RO/SRO** **Points: 1.00**

Given the following conditions:

- 1/2B SBGT SELECT switch is in PRIM
- 1/2A SBGT SELECT switch is in STBY
- SBGT has received an initiation signal.

Which of the following conditions would result in 1/2A SBGT train flow increasing?

A. A failure of the heater for the 1/2B SBGT to start.

B. The SBGT failed to maintain Reactor Building to Outside DP more negative than -0.25 inches.

C. The inlet to B SBGT Train (1/2-7505B) fails to open.

D. A loss of Instrument Air to the flow control damper has occurred.

Answer: C

Question 24 Details

Question Type:	Multiple Choice
Topic:	Question #24 (RO/SRO) SR-7500-K21
System ID:	
User ID:	Q #24 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOA 7500-01, R. 14
User Text:	261000A1.01
User Number 1:	2.90
User Number 2:	3.10
Comment:	New question. High Order. With the failure of the Primary Train "B" inlet to open, the "B" SBGT train cannot develop adequate flow, so the "A" SBGT train will start. A loss of IA will cause the flow control damper to fail open, not closed. Reactor Building Delta-P is not directly controlled by SBGT. Heater ops do not affect SBGT flow.

25 **ID: Q #25 RO/SRO** **Points: 1.00**

If the Unit Two ESS UPS fails an operator would verify that the ESS ASCO ABT has switched to _____.

A. MCC 25-2

B. Bus 27

C. Bus 28

D. MCC 28-2

Answer: D

Question 25 Details

Question Type:	Multiple Choice
Topic:	Question #25 (RO/SRO) SR-6800-K14
System ID:	
User ID:	Q #25 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QOA 6800-03, R. 26
User Text:	262001K1.04
User Number 1:	3.10
User Number 2:	3.40
Comment:	ILT.05479 (77664) Bank question. Fundamental. MCC 28-2 is the backup for a failure of the UPS. Bus 28 is the normal power supply to the UPS. Bus 17 is the backup to the static switch, which is part of the UPS, so they may choose Bus 27, but on unit 2 it is Bus 26. MCC 25-2 is the backup to the Instrument Bus.

26 **ID: Q #26 RO/SRO** **Points: 1.00**

Following a loss of offsite power, Bus 24-1 is being carried by the EDG. Prior to closing the Bus 24 TO BUS 24-1 breaker while synchronizing Bus 24 to Bus 24-1, the operator is to verify that the Diesel and Bus meet the requirements for synchronization.

(NOTE: During the exam, clarification was given that Bus 24 had been reenergized.)

This is done by verifying the synchroscope is:

A. rotating slowly in the fast direction with the synchroscope approaching the 11 o'clock position.

B. rotating slowly in the slow direction with the synchroscope approaching the 12 o'clock position.

C. rotating slowly in the fast direction with the synchroscope approaching the 12 o'clock position.

D. rotating slowly in the slow direction with the synchroscope approaching the 1 o'clock position.

Answer: B

Question 26 Details

Question Type:	Multiple Choice
Topic:	Question #26 (RO/SRO) SR-6600-K21
System ID:	
User ID:	Q #26 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 6600-03, R.15, pg 3
User Text:	264000A4.02
User Number 1:	3.40
User Number 2:	3.40
Comment:	New question. Fundamental. Per the procedure, synchronization is to occur when the synchroscope is rotating slowly in the fast direction and approaching the 12 O'clock position. (changed question to reflect parallel operation with bus 24 and EDG and reference per NRC exam review)

27 **ID: Q #27 RO/SRO** **Points: 1.00**

How is the amount of fuel regulated to the cylinders for the diesel when it is at speed?

A. As speed changes on the diesel the governor changes the speed of the fuel pump to send the proper amount of fuel.

B. The governor positions the fuel racks which controls the amount of fuel injected into the cylinders which controls the speed of the diesel as load is added or removed.

C. The load limit control automatically controls the fuel rack position which controls the amount of fuel injected into the cylinders which controls the speed of the engine.

D. The fuel injectors are set at a predetermined value which will maintain the amount of fuel constant therefore maintaining speed constant.

Answer: B

Question 27 Details

Question Type:	Multiple Choice
Topic:	Question #27 (RO/SRO) SRN-6600-K15
System ID:	
User ID:	Q #27 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LN-6600, pg. 11
User Text:	264000K4.06
User Number 1:	2.60
User Number 2:	2.70
Comment:	LN.01212 (75667) ILT.01212 replaced redundant NLO.00118 Bank question. Fundamental. The governor postions the fuel racks to control the amount of fuel of fuel injected.

28 **ID: Q #28 RO/SRO** **Points: 1.00**

An automatic actuation of the Halon Fire Protection System for the New Computer Room has occurred.

Which of the following describes the operational implications?

Both air conditioning units trip closing the intake damper, the room exhaust damper:

A. closes and the process computer will automatically trip.

B. remains open and the process computer will automatically trip.

C. closes and the process computer is susceptible to errors in data processing and calculations at 80 degrees F.

D. remains open and the process computer is susceptible to errors in data processing and calculations at 80 degrees F.

Answer: C

Question 28 Details

Question Type:	Multiple Choice
Topic:	Question #28 (RO/SRO) SR-4100-K15
System ID:	
User ID:	Q #28 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LN-5751, QOA 5750-12, R.6
User Text:	286000K5.02
User Number 1:	2.60
User Number 2:	2.60
Comment:	New. High Order. The room exhaust damper closes on a fire and the process computer is susceptible to errors in data processing and calculations at 80 degrees F. (added "halon" to stem per NRC exam review)

29 **ID: Q #29 RO/SRO** **Points: 1.00**

Both units are operating at full power with the plant in a normal configuration.

On a complete loss of instrument air, the emergency isolation dampers will fail _____ and the fan dampers will fail _____.
(NOTE: During the exam, clarification was given that the question referred to Reactor Building Ventilation.)

A. OPEN; OPEN

B. CLOSED; CLOSED

C. CLOSED; OPEN

D. OPEN; CLOSED

Answer: C

Question 29 Details

Question Type:	Multiple Choice
Topic:	Question #29 (RO/SRO) SR-5750-K23
System ID:	
User ID:	Q #29 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LNF-5750 r2
User Text:	288000K1.06
User Number 1:	2.70
User Number 2:	2.70
Comment:	LN.08733 (79666) ILT.08733 replaced redundant NLO.02245 Fundamental. On a loss of IA, the Emergency dampers close due to an accumulator. The fan dampers fail open on a loss of IA. (added "fundamental to comments per NRC exam review)

30 **ID: Q #30 RO/SRO** **Points: 1.00**

A storm front is approaching causing atmospheric pressure to drop.
How will this be indicated in the Control Room and what is the expected system response?

Reactor Building Delta-P will _____ and Rx Building Exhaust Fan Vortex dampers will _____ further.

A. become less negative; open

B. become less negative; close

C. become more negative; open

D. become more negative; close

Answer: A

Question 30 Details

Question Type:	Multiple Choice
Topic:	Question #30 (RO/SRO) SR-5750-K20
System ID:	
User ID:	Q #30 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LNF-5750, pg 12 & 37
User Text:	290001A3.02
User Number 1:	3.50
User Number 2:	3.50
Comment:	New question. High Order. A drop in atmospheric pressure will cause the Delta-P to drop since the RX BLDG is at a vacuum. This will cause the exhaust dampers to open to restore the DP. (removed "increase" and "decrease" from each choice per NRC exam review)

31 **ID: Q #31 RO/SRO** **Points: 1.00**

Both units are operating at full power.
The Unit one HPCI exhaust line develops a leak at the Torus penetration. (Outside the Torus, in the Torus Room)

(NOTE: During the exam, clarification was given that HPCI was NOT running.)

If no operator action is taken Rx building basement Torus area water levels:

A. will increase, but local Oxygen Concentration will NOT be affected.

B. will NOT be affected, but local Oxygen Concentration will be affected.

C. will increase and local Oxygen Concentration will be affected.

D. will NOT be affected and local Oxygen Concentration will NOT be affected.

Answer: D

Question 31 Details

Question Type:	Multiple Choice
Topic:	Question #31 (RO/SRO) SRN-1601-K2
System ID:	
User ID:	Q #31 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOA 1600-05 R6
User Text:	290001K6.04
User Number 1:	3.90
User Number 2:	4.10
Comment:	New question. High Order. Answer is correct due to ECCS suction header location near the bottom of the torus and during normal plant operation the torus is inerted. QCOA 1600-05 rev 6 (Question rewritten during NRC prep week so that the leak is in the HPCI exhaust line at the top of the Torus. This will not affect level. O2 concentration will not be affected because the HPCI sparger is at 11 feet, below the normal water level, so the water seal will prevent N2 from escaping the Containment).

32 **ID: Q #32 RO/SRO** **Points: 1.00**

During a loss of Service Water, which ONE of the following systems can supply cooling water to the CR HVAC "B" AHU air conditioning unit?

A. Circulating Water (CW)

B. Residual Heat Removal Service Water (RHRSW)

C. Turbine Building Closed Cooling Water (TBCCW)

D. Reactor Building Closed Cooling Water (RBCCW)

Answer: B

Question 32 Details

Question Type:	Multiple Choice
Topic:	Question #32 (RO/SRO) SR-5752-K23
System ID:	
User ID:	Q #32 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 5750-9,R.27, pg. 6,7
User Text:	290003K1.05
User Number 1:	2.80
User Number 2:	3.00
Comment:	LWQ.00260 (81783) Bank question. Fundamental. RHRSW is the backup. TBCCW, RBCCW and Circ Water are not.

33 **ID: Q #33 RO/SRO** **Points: 1.00**

Which of the following would require immediate suspension of core alterations?

A. The "B" fuel pool cooling pump trips.

B. An inadvertent reactor building ventilation isolation.

C. The "B" control room ventilation air handling unit trips.

D. Shutdown cooling is declared inoperative.

Answer: C

Question 33 Details

Question Type:	Multiple Choice
Topic:	Question #33 (RO/SRO) SR-CROP-K04
System ID:	
User ID:	Q #33 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	T.S. 3.7.4.
User Text:	G 2.1.11
User Number 1:	3.00
User Number 2:	3.80
Comment:	New question. High Order. Control room HVAC is the only one that requires core alterations to be immediately suspended. The rest have either a period of time to comply or no requirement to stop fuel moves at all. (this question is a replacement for the original based on NRC exam review to reflect a more operationally significant K/A)

34 **ID: Q #34 RO/SRO** **Points: 1.00**

Part of the overall ECCS design bases is to:

A. prevent fuel cladding melting for any mechanical failure of the primary system with at least one source of offsite power.

B. provide a barrier which in the event of a loss of coolant accident will control the release of fission products to the secondary containment and limit the release of radioactive materials to the environment.

C. provide a means of alternate core cooling following a shutdown from 100% rated thermal power when the reactor is isolated from the condenser and shutdown mode of RHR is unavailable.

D. prevent fuel cladding melting for any mechanical failure of the primary system up to and including a break area equivalent to the largest primary system pipe.

Answer: D

Question 34 Details

Question Type:	Multiple Choice
Topic:	Question #34 (RO/SRO) LIC-ECCS
System ID:	
User ID:	Q #34 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-ECCS pg. 2
User Text:	2.1.27
User Number 1:	2.80
User Number 2:	2.90
Comment:	New. Fundamental. ECCS is designed to prevent fuel clad melting on the largest primary system pipe break.

35 **ID: Q #35 RO/SRO** **Points: 1.00**

Plant conditions are as follows:
- Unit Two is recovering from a scram.
- Preparations are underway to start-up the 2B recirc. pump.
- 2A recirculation pump is running at 32% speed.
- Reactor vessel dome pressure = 980 psig.
- A recirc loop temperature = 540 degrees F.
- B recirc loop temperature = 500 degrees F.
- Bottom head coolant temperature = 390 degrees F.

Which of the following describes the limitations, if any, imposed on starting the 2B recirc pump?

A. The pump should NOT be started because bottom head coolant temperature is too low.

B. The pump should NOT be started because the loop differential temperature is too high.

C. The pump can be started immediately.

D. The pump should NOT be started because the 2A recirc pump is running too fast.

Answer: A

Question 35 Details

Question Type:	Multiple Choice
Topic:	Question #35 (RO/SRO) SR-0202-K28
System ID:	
User ID:	Q #35 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 0202-02, R.23, E.7.a
User Text:	G.2.2.1
User Number 1:	3.70
User Number 2:	3.60
Comment:	Modified from INPO bank # 14486 High Order. Exceed 145 degrees Delta-T between bottom head and reactor coolant temperature. Loop delta-T is 40, limit is 50.

36 **ID: Q #36 RO/SRO** **Points: 1.00**

The illuminated red light above the Relief Valve Control Switches indicates the ____(1)_____ is activated on Unit One and the ____(2)_____ is activated on Unit Two.

A. (1) valve position reed switch;
(2) valve solenoid open limit switch

B. (1) valve solenoid open limit switch;
(2) valve position reed switch

C. (1) valve position reed switch;
(2) valve position reed switch

D. (1) valve solenoid open limit switch;
(2) valve solenoid open limit switch

Answer: B

Question 36 Details

Question Type:	Multiple Choice
Topic:	Question #36 (RO/SRO) SR-0203-K20
System ID:	
User ID:	Q #36 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-0203 R. 9, pg. 11
User Text:	G.2.2.3
User Number 1:	3.10
User Number 2:	3.30
Comment:	New question. Fundamental. Unit 1 valve indication is from a limit switch inside the solenoid. Unit 2 valve indication is from reed switches. (corrected K/A and value per NRC exam review)

37 **ID: Q #37 RO/SRO** **Points: 1.00**

Which one of the following is a prerequisite to Purging/Deinerting the Primary Containment through SBGT?

A. Both divisions of Rx Bldg Vent rad monitoring must be verified operable within four hours.

B. Torus must be vented for four hours.

C. The drywell and torus pressure must be equalized within one hour.

D. Both the drywell and torus must be sampled within eight days.

Answer: D

Question 37 Details

Question Type:	Multiple Choice
Topic:	Question #37 (RO/SRO) SR-1602-K28
System ID:	
User ID:	Q #37 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 1600-07 R. 16 C.5
User Text:	G 2.3.9
User Number 1:	2.50
User Number 2:	3.40
Comment:	Bank question. Fundamental. Drywell has been sampled within 8 days per step C.5 of QCOP 1600-07. (deleted phrase "prior to..." in each distractor and answer per NRC exam review)

38 **ID: Q #38 RO/SRO** **Points: 1.00**

Why is it NOT permissible to run the Mechanical Vacuum Pump when the reactor mode switch is in the RUN position?

A. Because the SJAE's are required to be on when the mode switch is in RUN and they both use the same suction path.

B. Because this would provide an unfiltered release pathway to the Main Chimney.

C. Because the Mechanical Vacuum Pump would trip on high temperature once steam was being dumped to the condenser through the bypass valves.

D. Because this would bypass the Low Condenser Vacuum scram with the mode switch in RUN.

Answer: B

Question 38 Details

Question Type:	Multiple Choice
Topic:	Question #38 (RO/SRO) SR-5400-K28
System ID:	
User ID:	Q #38 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	TS 3.3.7.2 Bases
User Text:	G. 2.3.11
User Number 1:	2.70
User Number 2:	3.20
Comment:	LN.05154 (77356) Modified question. Fundamental. The Mechanical Vacuum Pump bypasses the off-gas train.

39 **ID: Q #39 RO/SRO** **Points: 1.00**

The purpose of the Pre-Fire Plans is to provide _____

A. the fire brigade leader with guidance for fighting a fire in a specific area of the plant.

B. the Shift Manager guidance concerning personnel accountability during a fire (assembly).

C. direction to the crew for initiating fire actions from the control room.

D. identify actions to the Off-Site Fire Department to egress into the protected area.

Answer: A

Question 39 Details

Question Type:	Multiple Choice
Topic:	Question #39 (RO/SRO) SR-4101-K01
System ID:	
User ID:	Q #39 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	OP-AA-201-008, R. 1
User Text:	G 2.4.25
User Number 1:	2.90
User Number 2:	3.40
Comment:	LWQ.00451 (81923) Bank question. Fundamental. Per OP-AA-210-108 section 1.2.

40 **ID: Q #40 RO/SRO** **Points: 1.00**

Which readily available hand held fire extinguisher should be your first choice to extinquish a small electrical fire on the 902-5 panel in the control room?

A. AFFF Foam

B. Dry Chemical

C. Carbon Dioxide

D. Pressurized water

Answer: C

Question 40 Details

Question Type:	Multiple Choice
Topic:	Question #40 (RO/SRO) NGET
System ID:	
User ID:	Q #40 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	ERG fire brigade LP fbp10
User Text:	G. 2.4.26
User Number 1:	2.90
User Number 2:	3.30
Comment:	Bank question. Fundamental. Foam and water extinquishers are not available in the control room. Use of dry chemical is not recommended due to the amount of residue left. CO2 is the best choice. Emergency Response Fire Brigade Training lesson plan fbp10 rev 5

41 **ID: Q #41 RO/SRO** **Points: 1.00**

A yellow bordered alarm, 901-3 A-14; Torus Hi/Lo Level, has just annunciated. The NSO has confirmed torus level is -0.5 inches. The crew should immediately enter:

1. QGA 200, Primary Containment Control
2. The suppression pool water level Technical Specification
3. Annunciator procedure 901-3 A-14

A. # 1 and # 3 only

B. #1, # 2, and # 3

C. # 2 and # 3 only

D. # 3 only

Answer: D

Question 41 Details

Question Type:	Multiple Choice
Topic:	Question #41 (RO/SRO) SR-PGTM-K3
System ID:	
User ID:	Q #41 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	901-3 A-14 r5
User Text:	G.2.4.31
User Number 1:	3.30
User Number 2:	3.40
Comment:	New question. High Order. Answer is correct due to alarm setpoint is -0.5 while QGA entry condition and T.S.entry is @ +/-2". (question replaced original to be higher order and better match K/A section per NRC exam review)

42 **ID: Q #42 RO/SRO** **Points: 1.00**

Unit 2 has experienced a total loss of annunciators due to a loss of the normal power supply.

The operators should align reserve power supply from:

A. the essential service bus.

B. 250 VDC B bus.

C. 125 VDC B bus.

D. the instrument bus.

Answer: C

Question 42 Details

Question Type:	Multiple Choice
Topic:	Question #42 (RO/SRO) SR-9900-K26
System ID:	
User ID:	Q #42 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOA 0900-01, r. 8, pg. 2
User Text:	G 2.4.32
User Number 1:	3.30
User Number 2:	3.50
Comment:	New question. Fundamental. 125VDC from division 1 (A bus) is the power source for the annunciators with division 2 (B bus) as the reserve supply. Others are not a potential source of power. QCOA 0900-01 rev 8

43 **ID: Q #43 RO/SRO** **Points: 1.00**

Unit 2 is operating at 100% power on the 95% Flow Control Line when a trip of the 2B Recirc Pump occurs.

RPV water level will:

A. increase to the RFP high level trip setpoint.

B. decrease to the low level scram setpoint.

C. increase first and return to normal.

D. decrease first and return to normal.

Answer: C

Question 43 Details

Question Type:	Multiple Choice
Topic:	Question #43 (RO/SRO) SR-0202-K22
System ID:	
User ID:	Q #43 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 0202-21, R. 3, pg. 4
User Text:	295001AK2.03
User Number 1:	3.60
User Number 2:	3.70
Comment:	New question. Fundamental. Reactor water level increases on a recirc pump trip and then returns to normal.

44 **ID: Q #44 RO/SRO** **Points: 1.00**

Unit 2 is operating at 100% power.
Condenser backpressure is 3".
Main Condenser Flow Reversal is in progress from the Control Room.
The NSO notes that Condenser Backpressure is 4.5" and rising .25 inches every five seconds..
All valves are stroking normally.
The NSO should:

A. have the operator stationed at the Local Panel (2252-71) take Local Control and complete the flow reversal.

B. dispatch an operator to complete the flow reversal manually.

C. stop the reversing operation and return the valves to their original position.

D. have the operator stationed at MCC 27-2 attempt to reset the breaker and thermals for any valve that tripped to complete the flow reversal.

Answer: C

Question 44 Details

Question Type:	Multiple Choice
Topic:	Question #44 (RO/SRO) SR-4400-K26
System ID:	
User ID:	Q #44 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 4400-09, R. 11
User Text:	295002AA1.07
User Number 1:	3.10
User Number 2:	2.90
Comment:	ILT.05128 (77331) Bank question. Fundamental. Per limitations and actions step E.1.

45 **ID: Q #45 RO/SRO** **Points: 1.00**

Unit One was operating at full power with all systems in their normal lineup when both feed breakers to 480 vac MCC's 18-2 and 19-2 simultaneously trip.

What is the operational impact of failsafe design associated with this loss of AC power?

A. The alternate feed breakers automatically close maintaining all power and loads.

B. The alternate feed breakers automatically close to restore power to essential loads.

C. A half scram and half Groups II and III Isolations occur due to lost loads.

D. A full reactor scram and full Groups II and III Isolations occur due to lost loads.

Answer: D

Question 45 Details

Question Type:	Multiple Choice
Topic:	Question #45 (RO/SRO) SR-0500-K26
System ID:	
User ID:	Q #45 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QOA 7000-01, R. 26, pg. 1
User Text:	295003AK1.05
User Number 1:	2.60
User Number 2:	2.70
Comment:	New. High Order. Ref QOA 7000-01. Full scram and Gp 2 and 3 isolations due to loss of RPS. No auto transfer of power for RPS.

46 **ID: Q #46 RO/SRO** **Points: 1.00**

Why is the Emergency Seal Oil Pump required to be tripped within 2 hours of a Unit One blackout?

A. To ensure that Unit One RCIC remains available for the four-hour design period.

B. The battery sizing calculations assumed that specific loads are shed from the bus during the analyzed four-hour period.

C. To extend the battery capability beyond the analyzed four-hour design period.

D. There would be no need for the Hydrogen Seal Oil pump since the generator would be no longer rotating after 2 hours.

Answer: B

Question 46 Details

Question Type:	Multiple Choice
Topic:	Question #46 (RO/SRO) SRN-6900-K01
System ID:	
User ID:	Q #46 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOA 6900-05,R. 7, pg 2,3
User Text:	295004AK3.01
User Number 1:	2.60
User Number 2:	3.10
Comment:	New. Fundamental. Battery sizing calculations assume specific loads are shed during the analyzed 4 hour period.

47 **ID: Q #47 RO/SRO** **Points: 1.00**

Unit 2 is operating at 100% power when a reactor scram occurs.

Instrument Air is _____ the extraction steam non-return check valves in order to prevent _____.

A. applied to; condenser overpressurization

B. vented off; turbine overspeeding

C. vented off; condenser overpressurization

D. applied to; turbine overspeeding

Answer: B

Question 47 Details

Question Type:	Multiple Choice
Topic:	Question #47 (RO/SRO) SR-3500-K15
System ID:	
User ID:	Q #47 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LN-3500 R.2, pg. 18
User Text:	295005AK3.05
User Number 1:	2.50
User Number 2:	2.60
Comment:	Modified question. Fundamental. IA is vented off on a turbine trip to prevent steam from the FW heaters causing the turbine to overspeed.

48 **ID: Q #48 RO/SRO** **Points: 1.00**

Unit 2 is in RUN.
The scram discharge volume DISCH VOL HI WTR BYP keylock switch is in BYPASS.
Both scram discharge volumes have increased to 50 gallons.

The blue SCRAM lights on the full core display will be _____ and the Scram Solenoid Group lights will be _____.

A. de-energized; energized

B. energized; de-energized

C. de-energized; de-energized

D. energized; energized

Answer: B

Question 48 Details

Question Type:	Multiple Choice
Topic:	Question #48 (RO/SRO) SR-0500-K20
System ID:	
User ID:	Q #48 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 0300-28,QCOA 0500-02
User Text:	295006AA2.05
User Number 1:	4.60
User Number 2:	4.60
Comment:	ILT.04238 (77057) Bank question. High Order. When the scram valves are opened, the blue scram lights are energized. The Scram Solenoid Group lights are deenergized when RPS is tripped. (added 901(2)-5 B-1 as reference per NRC exam review)

49 **ID: Q #49 RO/SRO** **Points: 1.00**

Unit 2 was operating at 100% power when an inadvertent Group 1 occured.
Relief valves are cycling on their auto setpoints.
Reactor pressure is 1116 psig and rising at a rate of one pound per second.
The "B" relief valve closed five seconds ago.

The "B" relief valve is expected to automatically open _____.

A. immediately

B. in approximately five seconds

C. in approximately nine seconds

D. in nineteen seconds

Answer: C

Question 49 Details

Question Type:	Multiple Choice
Topic:	Question #49 (RO/SRO) SR-0203-K28
System ID:	
User ID:	Q #49 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-0203, pg. 4
User Text:	295007AA1.04
User Number 1:	3.90
User Number 2:	4.10
Comment:	New question. High Order. The ADS valves have a timer that prevents auto reopening for approximately 14 seconds. Rx pressure is above the lift setpoint, so the relief valve will lift as soon as the timer times out. (During NRC Validation, changed 1135 psig to 19 seconds and added the word approximately to 5 and 9 seconds.)

50 **ID: Q #50 RO/SRO** **Points: 1.00**

Which of the following statements correctly describes the operation of the Reactor Recirculation MG sets with RPV level at -59" and RPV pressure 800 PSIG?

A. The ARI system causes the field breakers to trip and the drive motor breakers do NOT trip.

B. LPCI loop select logic causes the drive motor breakers to trip and the ARI system causes the field breakers to trip after a 9-second time delay.

C. PCIS logic causes both drive motor breakers to trip and the ARI system trips the field breakers immediately.

D. The ARI system causes the drive motor breakers to trip and the field breakers to trip after a 9-second time delay.

Answer: B

Question 50 Details

Question Type:	Multiple Choice
Topic:	Question #50 (RO/SRO) SR-0202-K09
System ID:	
User ID:	Q #50 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	4
Point Value:	1.00
Cross Reference:	QCAN 901-4 H-3 & A-9
User Text:	295037 EK2.03
User Number 1:	4.10
User Number 2:	4.20
Comment:	NEW 124902 Fundamental. LPCI loop select logic causes the drive motor breakers to trip and the ARI system causes the field breakers to trip after a 9-second time delay.

51 **ID: Q #51 RO/SRO** **Points: 1.00**

A reactor startup is in progress in accordance with QCGP 1-1, Normal Unit Startup, the DW is still inerted.
While placing the first FRV in service, the REACTOR VESSEL HIGH LEVEL annunciator ALARMS.
The NSO takes action to reduce vessel level to normal by increasing RWCU system blowdown from 100 GPM to 200 GPM.

What consequence could result from the increased RWCU blowdown?

A. RWCU system demins will isolate on high post strainer temperature.

B. Reactor level will decrease and a Group II isolation will be received.

C. RWCU system demins will isolate on high post strainer DP.

D. Drywell temperature would increase, causing the QGAs to be initially entered on High Drywell Pressure.

Answer: D

Question 51 Details

Question Type:	Multiple Choice
Topic:	Question #51 (RO/SRO) SR-3700-K24
System ID:	
User ID:	Q #51 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCGP 1-1, R43 pg. 32 D.7
User Text:	295010AK1.03
User Number 1:	3.20
User Number 2:	3.40
Comment:	Bank question. High Order. Due to the reject flow, you have less cooling flow returning to the RHX, which in turn places a greater heat load on the NRHX and RBCCW, which in turn causes overheating the Drywell coolers. (During NRC exam review, changed pressure to level and Group I to II in the one distractor. Removed the word possibly from the answer. Shortened the stem.)

52 **ID: Q #52 RO/SRO** **Points: 1.00**

A LOCA on Unit 2 has caused high Drywell pressure.

Drywell temperature is required to be monitored prior to spraying the Drywell in order to verify Drywell parameters are within the:

A. DSIL curve.

B. PSP curve.

C. PCPL curve.

D. RPV Saturation Temperature curve.

Answer: A

Question 52 Details

Question Type:	Multiple Choice
Topic:	Question #52 (RO/SRO) SR-0001-K22
System ID:	
User ID:	Q #52 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA Details, pg. 26-31 r2
User Text:	295010AK3.05
User Number 1:	3.50
User Number 2:	3.40
Comment:	New question. Fundamental. Required to check DSIL prior to initaiting sprays. PSP looks at Torus pressure and temperature. 180 and 260 degrees F by themselves do not prevent spray initiation. QGA 200 rev 8 (During NRC exam review, deleted DW temp below 180 and 260 degrees as distractors and added the PCPL curve and RPV Sat Temp curve. Reformated stem/distractors.)

53 **ID: Q #53 RO/SRO** **Points: 1.00**

Increasing Drywell temperature requires starting additional Drywell Coolers to prevent jeopardizing _____integrity.

A. Recirc Pump Seal

B. Primary Containment

C. Reactor Vessel Head

D. RPV Level Instrument

Answer: B

Question 53 Details

Question Type:	Multiple Choice
Topic:	Question #53 (RO/SRO) SR-0001-K20
System ID:	
User ID:	Q #53 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 200 LP pg. 5,37,39 r2
User Text:	295012AK3.01
User Number 1:	3.50
User Number 2:	3.60
Comment:	Bank question. Fundamental. QGA 200 is concerned with Primary Containment integrity. The distractors are concerned with reactor integrity. (NRC exam review changed stem to say "increasing drywell temperature" as oppossed to QGA 200, Primary Containment Control.

54 **ID: Q #54 RO/SRO** **Points: 1.00**

Given the following plant conditions:

- RPV level 10 inches
- Drywell pressure 3 psig
- RPV pressure 1050 psig
- Drywell temperature 170 °F
- Reactor power 2%

WHICH ONE of the following correctly states the QGA procedures that initially should be entered based on the above information ONLY?

A. QGA 100 and QGA 200.

B. QGA 100 and QGA 200-5.

C. QGA 101 and QGA 200.

D. QGA 101 and QGA 200-5.

Answer: A

Question 54 Details

Question Type:	Multiple Choice
Topic:	Question #54 (RO/SRO) SR-0001-K21
System ID:	
User ID:	Q #54 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 100, 200 r2
User Text:	295013G2.4.4
User Number 1:	4.00
User Number 2:	4.30
Comment:	Bank question. Fundamental. Drywell pressure of 3 psig requires entry into QGA 100 and 200. Reactor power is < 3%, so no QGA 101 entry. No indications of H2, so no requirement to enter QGA 200-5.

55 **ID: Q #55 RO/SRO** **Points: 1.00**

Unit 2 had an ADS valve leaking for several days that is still operable.
A plant cooldown is in progress on Unit 2, Reactor pressure is currently 700 psig.
The RHR system was JUST started in the Torus Cooling Mode and the ANSO reports Torus temperature rapidly rising.

The rapid rise in Torus temperature is due to _____.
If indicated Torus temperature exceeds _____ degrees F, a Reactor scram is required.

A. initial stratification of water in the Torus; 105

B. initial stratification of water in the Torus; 110

C. ADS valve leakage impinging directly on the temperature sensors; 105

D. ADS valve leakage impinging directly on the temperature sensors; 110

Answer: B

Question 55 Details

Question Type:	Multiple Choice
Topic:	Question #55 (RO/SRO) SR-1000-K29
System ID:	
User ID:	Q #55 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	OE-4679
User Text:	295013AK1.01
User Number 1:	2.50
User Number 2:	2.60
Comment:	New question. High Order. With a leaking Relief valve and no Torus Cooling flow, you can get high Torus temps when the flow is initiated.

56 **ID: Q #56 RO/SRO** **Points: 1.00**

An ATWS has occured. Reactor power is 3% and steady. Reactor pressure is 920 psig and being controlled by turbine bypass valves. Reactor water level has been lowered to -145 inches IAW QGA 101, RPV Control (ATWS).

Which one of the following describes the status of core cooling and safety limits?

Adequate core cooling _(1)_ assured and _(2)_ safety limit has been violated.

A. (1) IS
(2) NO

B. (1) IS NOT
(2) NO

C. (1) IS
(2) A

D. (1) IS NOT
(2) A

Answer: C

Question 56 Details

Question Type:	Multiple Choice
Topic:	Question #56 (RO/SRO) SR-0800-K28
System ID:	
User ID:	Q #56 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	L-QGA101 LP, pg. 35
User Text:	295015G2.2.22
User Number 1:	3.40
User Number 2:	4.10
Comment:	New. High Order. Adequate coore cooling is assured by maintaining RPV level above the miniumum steam cooling level (-166 inches). Level above the top of active fuel (-142 inches) safety limit is violated. Ref TS 2.1

57 **ID: Q #57 RO/SRO** **Points: 1.00**

Both Units are operating at full power when Unit 1 experiences a scram from full power. Plant conditions on Unit 1 are as follows:

-Half of the control rods are still at positions greater than 04.
-Reactor power indicates approximately 8%.
-Reactor water level is between +8" and +48" and stable.
-RPV pressure is less than 1040# and is being controlled with bypass valves.
-The rods DO NOT move inward when scrammed with reactor pressure.
-The running CRD pump TRIPS and CANNOT be restarted.
-The other CRD pump also TRIPS when it is started and WILL NOT restart.

What is the next action taken to insert control rods?

A. Shut the 1 301-25 CRD Charging Header Isolation and drive Control Rods.

B. Open CRD crosstie and use opposite unit pump to insert control rods.

C. Open SDV vents to relieve the hydraulic lock.

D. Locally vent the overpiston area of each control rod that IS NOT inserted.

Answer: B

Question 57 Details

Question Type:	Multiple Choice
Topic:	Question #57 (RO/SRO) SR-0302-K15
System ID:	
User ID:	Q #57 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	2
Point Value:	1.00
Cross Reference:	QCOA 0300-1, QCOP 0300-19
User Text:	295015AK2.01
User Number 1:	3.80
User Number 2:	3.90
Comment:	LORT 124429 Bank question. High Order. With both CRD pumps tripped, you must crosstie to get CRD flow. It does no good to close the 0303-25 valve with no CRD pumps running. There is no direction to open SDV vents or vent CRD overpistion areas.

58 **ID: Q #58 RO/SRO** **Points: 1.00**

An uncontrolled fire in the Control Room necessitates evacuation of the Control Room before the safe shutdown equipment can be obtained.

Where can the operators go to acquire the necessary equipment?

To the QCARP locker in the:

A. OSC.

B. Unit 1 Turbine Building Trackway.

C. Unit 2 Turbine Building Trackway.

D. Work Execution/Communications Center.

Answer: D

Question 58 Details

Question Type:	Multiple Choice
Topic:	Question #58 (RO/SRO) SRN-ARP-K04
System ID:	
User ID:	Q #58 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOS 0010-03, R. 14
User Text:	295016AK2.02
User Number 1:	4.00
User Number 2:	4.10
Comment:	ILT.00671 75175 Bank question. Fundamental. Comm Center is location of QCARP locker outside of Control Room.

59 **ID: Q #59 RO/SRO** **Points: 1.00**

The reactor has been scrammed from full power and the Mode Switch taken to S/D in response to an instrument air header rupture that has resulted in a loss of Instrument Air on Unit 2.

Which one of the following describes how the operation of the MSIVs will be affected by this condition?

A. All MSIVs would remain open since the MSIV Instrument Air Crosstie will automatically open.

B. All MSIVs would remain open since the drywell pneumatic system will automatically align to supply the MSIVs.

C. The inboard MSIVs would remain open; the outboard MSIVs would close.

D. The inboard MSIVs would close when their accumulators discharged; the outboard MSIVs would remain open.

Answer: C

Question 59 Details

Question Type:	Multiple Choice
Topic:	Question #59 (RO/SRO) SR-4700-K24
System ID:	
User ID:	Q #59 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QOA 4700-06, R. 12,
User Text:	295020AK2.12
User Number 1:	3.10
User Number 2:	3.20
Comment:	ILT.01951 (76044) Bank question. High Order. The Outboard MSIVs are supplied from IA. The Inboard MSIVs are supplied from DW pnuematics.

60 **ID: Q #60 RO/SRO** **Points: 1.00**

Initial conditions are as follows:

- Unit One in mode 4.
- Reactor Water level is 30 inches.
- Shutdown Cooling is in operation.

A spurious High Drywell Pressure signal is received and will NOT reset.
Reactor pressure is slowly increasing.
Reactor Shell and Flange temperatures are also slowly increasing.

The correct operator action is to:

A. raise reactor water level to between 90 and 100 inches.

B. secure Reactor Water Clean Up reject flow.

C. monitor running recirc pump parameters.

D. open safety relief valves.

Answer: A

Question 60 Details

Question Type:	Multiple Choice
Topic:	Question #60 (RO/SRO) HTFF-K8.35
System ID:	
User ID:	Q #60 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOA 1000-02 R12
User Text:	295021AK1.04
User Number 1:	3.60
User Number 2:	3.70
Comment:	New question. High Order. Answer is correct due to no recirc pumps running due to the spurious high drywell pressure signal and signs of thermal statification from pressure and metal temps increasing require enhancing natural circulation. Distractors would add to the stratification. (Per NRC validation fixed typo on word "received")

61 **ID: Q #61 RO/SRO** **Points: 1.00**

During a plant startup RPV pressure is 900 psig.

A sustained loss of CRD flow will have which one of the following immediate effects on control rod motion and scram times?

Normal rod motion is:

A. unaffected but scram times will NOT meet acceptable limits.

B. lost but scram times will be within acceptable limits.

C. unaffected and scram times will be within acceptable limits.

D. lost and scram times will NOT meet acceptable limits.

Answer: B

Question 61 Details

Question Type:	Multiple Choice
Topic:	Question #61 (RO/SRO) SR-0302-K24
System ID:	
User ID:	Q #61 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LF-0301, pg. 25
User Text:	295022AK1.01
User Number 1:	3.30
User Number 2:	3.40
Comment:	INPO Exambank # 7624. High Order. Cannot drive control rods if CRD pumps are tripped, but rods can still be scrammed at 900 psig.

62 **ID: Q #62 RO/SRO** **Points: 1.00**

Which of the following indications will positively identify a criticality event in progress while a fuel bundle is being lowered into the core during refueling operations?

A. Source range monitor nearest the fuel bundle doubles and stabilizes.

B. A refuel floor radiation monitor increasing and high alarm sounds.

C. Source range monitor nearest the fuel bundle spiking repeatedly.

D. A sustained increase on the source range monitor nearest the fuel bundle.

Answer: D

Question 62 Details

Question Type:	Multiple Choice
Topic:	Question #62 (RO/SRO) SRLF-805-K15
System ID:	
User ID:	Q #62 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCFHP 0110-02, R.3, pg1.
User Text:	295023AK1.03
User Number 1:	3.70
User Number 2:	4.00
Comment:	LWQ.00297 (81809) Bank question. Fundamental. Criticality is indicatd by a SUSTAINED increase in count rate of the SRM nearest the fuel bundle. (NRC exam review, changed from high order to fundamental. Revised one distractor from bridge reverse motion interlocks to SRMs.)

63 **ID: Q #63 RO/SRO** **Points: 1.00**

Why is Torus Spray initiated prior to torus pressure reaching 5 psig?

A. Prevent steam from bypassing the suppression pool.

B. Prevent catastrophic containment failure of the suppresion pool.

C. Allow the nitrogen flow back into the Drywell.

D. Reduce containment pressure by steam condensation and convective cooling.

Answer: D

Question 63 Details

Question Type:	Multiple Choice
Topic:	Question #63 (RO/SRO) SR-0001-K23
System ID:	
User ID:	Q #63 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LP QGA 200 R2, pg.17
User Text:	295024EK3.02
User Number 1:	3.50
User Number 2:	3.80
Comment:	New question. Fundamental. Correct answer is to condense any residual steam not condensed by the downcomers. Preventing steam bypassing the suppression pool is function of downcomers. Vacuum breakers allow nitrogen back to drywell and prevent torus failure. QGA 200 lesson plan rev 2

64 **ID: Q #64 RO/SRO** **Points: 1.00**

The following plant conditions exist;

Reactor pressure is 1090 psig.
DW Pressure is 3.7 psig.
CCST level is at 1,200 gallons.

Torus level is 14 feet 3 inches.

You are required to run HPCI in the Pressure Control Mode.
Determine the correct suction and discharge path of the pump to establish pressure control under these conditions?

	Suction	Discharge
A.	CCST;	Minimum flow line
B.	Torus;	Test return line
C.	CCST;	Test return line
D.	Torus;	Minimum flow line

Answer: D

Question 64 Details

Question Type:	Multiple Choice
Topic:	Question #64 (RO/SRO) SR-2300-K15
System ID:	
User ID:	Q #64 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LN-2300, pg. 38
User Text:	295025EA1.04
User Number 1:	3.80
User Number 2:	3.90
Comment:	ILT.11978 (81397) Bank question. High Order. Due to CCST level being < 10K gal, the HPCI suction will auto transfer to the Torus. Must use the minimum flow line due to Drywell pressure > 2.5 psig closing the test return line.

65 **ID: Q #65 RO/SRO** **Points: 1.00**

A LOCA occured on Unit 2.
Torus water temperature was 87 degrees F and has now increased to the QGA entry condition.

For these conditions, the SPDS indications for the Torus Water Temperature colored bar graph changed from _____ to _____.

A. yellow; red

B. green; red

C. green; yellow

D. white; yellow

Answer: C

Question 65 Details

Question Type:	Multiple Choice
Topic:	Question #65 (RO/SRO) SR-9900-K05
System ID:	
User ID:	Q #65 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QOP 9900-102, pg. 3
User Text:	295026EK2.04
User Number 1:	2.50
User Number 2:	2.80
Comment:	New question. High Order. Per QOP 9900-102, Torus temp is green for < 95 degrees and yellow for 95 to 110 degrees. (NRC exam review. Minor wording changes to the stem and changed one distractor from white to yellow.)

66 **ID: Q #66 RO/SRO** **Points: 1.00**

QGA 200, PRIMARY CONTAINMENT CONTROL, directs the operator to maintain torus temperature below the Heat Capacity Limit and if you cannot, then reduce reactor pressure to stay inside the Heat Capacity Limit.

Reducing reactor pressure to stay inside the Heat Capacity Limit is to:

A. ensure the torus has enough capacity to accept a full reactor depressurization without exceeding the design temperature of the torus.

B. ensure there is adequate margin to the ECCS suction piping design temperature in the event of a full reactor depressurization.

C. allow the operator to depressurize the reactor to a point where Core Spray and RHR can inject prior to the torus temperature exceeding the low pressure ECCS pump NPSH limit.

D. prevent inadequate steam condensation in the event of a full reactor depressurization, resulting in the torus to drywell vacuum breakers opening.

Answer: A

Question 66 Details

Question Type:	Multiple Choice
Topic:	Question #66 (RO/SRO) SR-0001-K23
System ID:	
User ID:	Q #66 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 200 LP, pg. 53 r2
User Text:	295026 EK3.01
User Number 1:	3.80
User Number 2:	4.10
Comment:	New question. Fundamental. Heat Capacity Limit is based on keeping Torus temp after a blowdown below torus design temp.

67 **ID: Q #67 RO/SRO** **Points: 1.00**

Unit 1 scrammed due to a large LOCA.
A Group One isolation has successfully completed.
Drywell Temperature has risen to 350 degrees Fahrenheit.

What are the immediate concerns?

A. Drywell temperature instrumentation is no longer reliable.

B. The ADS valves are no longer reliable.

C. Core flow instrumentation is no longer reliable.

D. The Inboard MSIV's are no longer reliable.

Answer: B

Question 67 Details

Question Type:	Multiple Choice
Topic:	Question #67 (RO/SRO) SR-0001-K23
System ID:	
User ID:	Q #67 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 200 LP, pg. 43 r2
User Text:	295028EK1.02
User Number 1:	2.90
User Number 2:	3.10
Comment:	Bank - LaSalle 2000 #25. High Order. Core flow instrumentation is not affected by drywell temperature. Drywell temperature instruments are not INOP at 350 Deg. F MSIVs are not the limiting component. The design limit for the Drywell is 280 Deg F. The SRV solenoids are not environmentally qualified above 338 deg F. and may not function. (NRC exam review. Changed may not function to no longer reliable.)

68 **ID: Q #68 RO/SRO** **Points: 1.00**

QGA 500-2, "Steam Cooling" specifies actions that use the steam cooling method of heat transfer to _____ that the reactor core remains adequately cooled under conditions when _____ source of injection into the RPV is available.

A. maximize the time; a single

B. indefinitely ensure; a single

C. maximize the time; no

D. indefinitely ensure; no

Answer: C

Question 68 Details

Question Type:	Multiple Choice
Topic:	Question #68 (RO/SRO) SR-0001-K43
System ID:	
User ID:	Q #68 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 500-2, R. 2, pg 1
User Text:	295031EK3.04
User Number 1:	4.00
User Number 2:	4.30
Comment:	Bank question. Fundamental. Purpose of Steam Cooling is to Maximize heat transfer when there is no injection.

69 **ID: Q #69 RO/SRO** **Points: 1.00**

Unit 2 is operating at 100% power and just experienced an invalid FULL Group 2 isolation.
All systems responded as expected.
Which of the following is most likely to cause entry into QGA 300?

A. Reactor Building Low Differential Pressure.

B. Reactor Building Ventilation Radiation.

C. HPCI Room Area Radiation.

D. MSIV Room High Temperature.

Answer: D

Question 69 Details

Question Type:	Multiple Choice
Topic:	Question #69 (RO/SRO) SR-0001-K29
System ID:	
User ID:	Q #69 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 300, QCOA 5750-07
User Text:	295032EK2.02
User Number 1:	3.60
User Number 2:	3.70
Comment:	New question. High Order. When Rx Bldg vents are isolated, the concern is excessive MSIV Room Temps. SBGT is designed to maintain Rx Bldg Delta-P when RB Vents isolate. Isolation is invalid, so no reason to suspect rads.

70 **ID: Q #70 RO/SRO** **Points: 1.00**

Both Units Reactor Building Ventilation supply and exhaust fans have tripped and the isolation dampers have automatically closed.
NO ECCS systems have initiated on either unit.

This was caused by a 25 GPM leak from the:

A. RWCU filter demineralizer.

B. Reactor Feed pump casing.

C. RBCCW pump discharge header.

D. Fuel Pool filter demineralizer.

Answer: A

Question 70 Details

Question Type:	Multiple Choice
Topic:	Question #70 (RO/SRO) SR-5750-K20
System ID:	
User ID:	Q #70 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCAN 901(2)-3 H-3 R. 8
User Text:	295034EA2.02
User Number 1:	3.70
User Number 2:	4.20
Comment:	New question. High Order. RWCU is the only high pressure, high temp system inthe Rx Bldg. RBCCW is low temp. low press. RFPs are in the Turbine Building. Fuel Pool Demins are in Radwaste.

71 **ID: Q #71 RO/SRO** **Points: 1.00**

An ATWS is in progress on Unit 2 with the following parameters.

- Reactor water level -30 inches
- Drywell pressure 8 psig

Plans are to inject boron using the RWCU system.
Simultaneously, reactor water level is being lowered to control reactor power.

Jumpers must be installed to allow opening RWCU :

A. isolation valves when Drywell pressure is 8 psig.

B. isolation valves when reactor water level is -30 inches.

C. filter demineralizer isolation valve when reactor water level is -30 inches.

D. filter demineralizer isolation valve when filter demineralizer differential pressure is 35 psid.

Answer: B

Question 71 Details

Question Type:	Multiple Choice
Topic:	Question #71 (RO/SRO) SR-0001-K61
System ID:	
User ID:	Q #71 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	2
Point Value:	1.00
Cross Reference:	QCAP 0200-10, Att. M
User Text:	295037EA1.11
User Number 1:	3.50
User Number 2:	3.60
Comment:	124667 (revise from LORTB) Bank question. Fundamental. RWCU isolates on 0 inches, but this does not prevent opening the filter demin bypass. High Drywell pressure is not a RWCU isolation. (NRC exam review. Changed one distractor from Drywell pressure of 8 psig to filter demin DP of 35 psig.)

72 **ID: Q #72 RO/SRO** **Points: 1.00**

Alarms 912-1 E-9 and F-9, RAD MON SYS A & B HIGH SCALE are alarming.
The Radwaste Effluent CAN be monitored in the___1___:
The Service Water Effluent CAN be monitored in the___2___:

A. 1. Radwaste Control Room ONLY
2. Main Control Room

B. 1. Radwaste Control Room ONLY
2. "B" CR HVAC Room

C. 1. Radwaste Control Room AND Main Control Room
2. "B" CR HVAC Room

D. 1. Radwaste Control Room AND Main Control Room
2. Main Control Room

Answer: D

Question 72 Details

Question Type:	Multiple Choice
Topic:	Question #72 (RO/SRO) SR-1701-K05
System ID:	
User ID:	Q #72 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOA 1700-02R5
User Text:	295038EA1.03
User Number 1:	3.70
User Number 2:	3.90
Comment:	New question. Fundamental. Answer is correct due to radwaste effluent monitors via at both the eberline in the control room and the 1/2 1791 in the radwaste control room. Service water effluent only available in the main control room. "B" HVAC room has no monitoring capability. QCOA 1700-02 rev 5 (NRC exam review. Added rad alarms to the stem.)

73 **ID: Q #73 RO/SRO** **Points: 1.00**

The 1A instrument air compressor is running when the unloader valve fails in the OPEN position.

What effect would this have on compressor / plant operation and what operator action is required?

A. The compressor would NOT develop any discharge pressure possibly resulting in low system pressure.
Start a standby Instrument Air Compressor.

B. High system air flow could result in compressor damage.
Open the manual dryer bypass valve.

C. High system air flow could result in compressor damage.
Start a standby Instrument Air Compressor.

D. The compressor would NOT develop any discharge pressure possibly resulting in low system pressure.
Open the manual dryer bypass valve.

Answer: A

Question 73 Details

Question Type:	Multiple Choice
Topic:	Question #73 (RO/SRO) SR-4700-K22
System ID:	
User ID:	Q #73 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LP46/4700, QOA 4700-06
User Text:	300000A2.01
User Number 1:	2.90
User Number 2:	2.80
Comment:	New question. High Order. The unloader opening will cause the compressor discharge pressure to decrease, requiring starting a standby compressor. (NRC exam review. Modified 2 distractors to say compressor damage and high flow instead of high system pressure.)

74 **ID: Q #74 RO/SRO** **Points: 1.00**

Unit 1 has experienced a total loss of TBCCW.

The Instrument Air compressors are protected against this failure by a trip on:

A. high pressure outlet HIGH air temperature.

B. cooling water HIGH temperature.

C. cooling water LOW pressure.

D. cooling water LOW flow.

Answer: A

Question 74 Details

Question Type:	Multiple Choice
Topic:	Question #74 (RO/SRO) SR-4700-K09
System ID:	
User ID:	Q #74 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	3.25
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QOA 4700-02
User Text:	300000K4.03
User Number 1:	2.80
User Number 2:	2.80
Comment:	New question. Fundamental. High outlet air temp outlet is the only one that is a trip.

75 **ID: Q #75 RO/SRO** **Points: 1.00**

QGA 200-5, "HYDROGEN CONTROL," primary containment pressure control path, directs the primary containment to be vented.

The procedure directs the operator to vent via the torus as the preferred method vice via the drywell.

Venting the primary containment via the torus will:

A. Reduce the levels of radioactivity released as it passes through the water in the torus.

B. Allow a more rapid reduction in primary containment pressure than venting from the drywell

C. Minimize chugging due to loss of non-condensibles from the drywell atmosphere.

D. Allow better control of the release rate due to the sizing of the path's piping and valves.

Answer: A

Question 75 Details

Question Type:	Multiple Choice
Topic:	Question #75 (RO/SRO) SR-0001-K23
System ID:	
User ID:	Q #75 RO/SRO
Status:	Active
Must Appear:	No
Difficulty:	2.75
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 200-5, pg. 7
User Text:	500000EK3.06
User Number 1:	3.10
User Number 2:	3.70
Comment:	STA ILT.10035: 80495 Bank question. Fundamental. Water in the Torus will "scrub" the air as it passes through, reducing release rates. Piping is the same size for the DW and Torus, so no affect. Chugging was a concern for sprays in the old rev of the QGAs.

76 **ID: Q #76 RO** **Points: 1.00**

Given the following plant conditions:

- The reactor has just scrammed from 100% power caused by a loss of off-site power and a Loss of Coolant Accident.
- Both Emergency Diesel Generators started but did NOT close on to their respective busses.
- Reactor pressure is being controlled automatically by relief valves.
- Reactor power is 0%.
- Reactor water level is -49 inches and decreasing at 10 inches per minute.
- RCIC is injecting at 400 gpm.
- HPCI started and then tripped and is unavailable.
- Drywell pressure is 2.0 psig and slowly increasing at 0.5 psi per minute.

Which one of the following actions describes the Automatic Depressurization System (ADS) response, assuming NO operator action is taken?

A. Will NOT automatically initiate.

B. Automatically initiates in 60 seconds.

C. Automatically initiates in 110 seconds.

D. Automatically initiates in 570 seconds.

Answer: A

Question 76 Details

Question Type:	Multiple Choice
Topic:	Question #76 (RO) SR-0203-K15
System ID:	
User ID:	Q #76 RO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	4
Point Value:	1.00
Cross Reference:	LIC-0203, pg. 3, 4
User Text:	203000K3.03
User Number 1:	4.20
User Number 2:	4.30
Comment:	LORTB 124784 Bank question. High Order. With a loss of off-site power and a failure of the EDGs to load on their busses, the ECCS pumps do not have a power supply, so they will not start. One of the requirements for ADS to auto blowdown is a Low pressure ECCS pump running.

77 **ID: Q #77 RO** **Points: 1.00**

Operation of HPCI below 2200 rpm should be minimized because:

A. the introduction of water into the turbine is very likely at low speed.

B. the pump will be in Run Out flow conditions.

C. it may result in unstable system operation.

D. the min. flow valve will NOT receive an open signal with the turbine below 2200 rpm.

Answer: C

Question 77 Details

Question Type:	Multiple Choice
Topic:	Question #77 (RO) SR-2300-K28
System ID:	
User ID:	Q #77 RO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LN-2300,pg 8, QCOP 2300-6
User Text:	206000G.2.1.32
User Number 1:	3.40
User Number 2:	3.80
Comment:	ILT.04272 (77090) Bank question. Fundamental. Operation below 2200 RPM will cause unstable system operation. Run out condition requires high flow. Min flow is not the concern at this point. Intro of water is dependent on reactor water level.

78 **ID: Q #78 RO** **Points: 1.00**

A LOCA on unit 2 resulted in the following:

Drywell pressure	8.0 psig and steady
Reactor water level	-120 inches and lowering
Reactor pressure	400 psig and lowering

The "A" Loop of Core Spray is NOT running.

Concerning the "A" Loop of Core Spray, the ANSO should:

A. place the 1A Core Spray pump in pull to lock.

B. wait for reactor pressure to drop below 325 psig and verify Core Spray auto initiates and injects.

C. wait for reactor pressure to drop below 325 psig and verify Core Spray auto initiates and manually open the MO 1-1401-25A valve.

D. manually start the "A" Core Spray pump immediately and open the MO 1-1401-25A valve when reactor pressure reaches 325 psig.

Answer: D

Question 78 Details

Question Type:	Multiple Choice
Topic:	Question #78 (RO) SR-1400-K26
System ID:	
User ID:	Q #78 RO
Status:	Active
Must Appear:	No
Difficulty:	2.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-1400, pg. 13
User Text:	209001A4.05
User Number 1:	3.80
User Number 2:	3.60
Comment:	New question. High Order. Core Spray pumps should have auto initiated at > 2.5 psig in the Drywell. When reactor pressure < 325 psig, they will auto inject. With CS pumps not running, you would not expect the injection to happen automatically either. Expectations are to take an auto action that does not happen. OP-AA-101-111, R. 0, pg.6; QCOA 1400-01, R.9

79 **ID: Q #79 RO** **Points: 1.00**

Unit 2 has experienced an ATWS.
Reactor power is ~ 20%.
The Unit Supervisor has directed SBLC injection into the RPV.
2A SBLC pump is electrically OOS.
The NSO has positioned the SBLC initiation switch to the SYS 1 & 2 position.

What is the expected response and what should be done per the Hard Card if the expected response does NOT occur?

A. One squib valve should fire;
Place the initiation switch to the SYS 1 position.

B. One squib valve should fire;
Place the initiation switch to the SYS 2 & 1 position.

C. Both squib valves should fire;
Place the initiation switch to the SYS 2 position.

D. Both squib valves should fire;
Place the initiation switch to the SYS 2 & 1 position.

Answer: ~~B~~ correct choice changed to D

Question 79 Details

Question Type:	Multiple Choice
Topic:	Question #79 (RO) SR-1100-K26
System ID:	
User ID:	Q #79 RO
Status:	Active
Must Appear:	No
Difficulty:	2.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 1100-02, R. 8
User Text:	211000A2.08
User Number 1:	4.10
User Number 2:	4.20
Comment:	76958 Modified question. High Order Answer is correct due to only the B squib firing due to the 2A SBLC pump being OOS. QCOP 1100-08, R. 9 (NRC exam review. Added info to the stem placing 2A SBLC pump OOS. The squib valves are powered from the pump breakers, so only 1 squib would fire. If the expected response does not happen, still required to take the switch to SYS 2 and 1.) NOTE: Due to recent modification during the October 2002 outage, SBLC power supply to 2A squib valve was changed. See post exam comment in exam report.

80 **ID: Q #80 RO** **Points: 1.00**

A fire has occurred on Bus 23. The NSO de-energized the bus and dispatched the fire brigade.

The 1/2 EDG did NOT autostart and has NOT been given a manual start signal.

The NSO manually scrammed the reactor but no rod movement resulted.
No other operator action has been taken.
The US has ordered SBLC injection.

After the NSO positions the keylock switch A AND B SELECT to SYS 1 & 2, the Pump A light will be _(1)_ and the Pump B light will be _(2)_ .

A. (1) ON
(2) OFF

B. (1) OFF
(2) ON

C. (1) OFF
(2) OFF

D. (1) ON
(2) ON

Answer: B

Question 80 Details

Question Type:	Multiple Choice
Topic:	Question #80 (RO) SR-1100-K23
System ID:	
User ID:	Q #80 RO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-1100, pg. 14
User Text:	211000K6.03
User Number 1:	3.20
User Number 2:	3.30
Comment:	(81179) Bank. High Order. The A pump light will be off due to the loss of Bus 28. The B pump light will be on due to system initiation. *Do not use with question 11637* QCAN 901(2)-5 H-6, R. 3; QCOP 1100-02, R. 8; FIG 6500-02, R. 2 (NRC exam review. Changed squib to pump.)

81 **ID: Q #81 RO** **Points: 1.00**

Which statement below best describes the reason the drywell grating is removed and the carousel locked in place prior to withdrawing the SRM's and IRM's?

A. To allow access for maintenance to work on the drives if necessary.

B. To prevent access in case the detectors overtravel out.

C. An interlock prevents SRM/IRM withdrawal with the grating in place.

D. To keep the drive mechanisms from impinging on the grating/carousel.

Answer: D

Question 81 Details

Question Type:	Multiple Choice
Topic:	Question #81 (RO) SR-0701-K28
System ID:	
User ID:	Q #81 RO
Status:	Active
Must Appear:	No
Difficulty:	2.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-0701, R. 5 pg 26
User Text:	215003G2.1.32
User Number 1:	3.40
User Number 2:	3.80
Comment:	ILT.04032 (76859) Bank. Fundamental. Grating must be removed to prevent damage to drive mechanisms. No interlocks.

82 **ID: Q #82 RO** **Points: 1.00**

Unit 2 is starting up with IRM's on range 4 and IRM 17 bypassed.
You receive a half scram on RPS A and the IRM High alarm (902-5 A5) comes in.
On the apron section for 902-5 the IRM 13 High and HIGH HIGH lights are lit.
The indication on the Recorder and on the drawer around back are pegged high for IRM 13.

Based on this information, you should:

A. bypass IRM 13, but leave "A" RPS 1/2 scram inserted.

B. bypass IRM 13, reset the 1/2 scram and continue the startup.

C. discontinue the startup because there are NOT enough IRM inputs.

D. reset the 1/2 scram and continue the startup.

Answer: B

Question 82 Details

Question Type:	Multiple Choice
Topic:	Question #82 (RO) SR-0702-K26
System ID:	
User ID:	Q #82 RO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-0702, PG.3,TS 3.3.1.1
User Text:	215003K6.05
User Number 1:	3.10
User Number 2:	3.20
Comment:	New question. High Order. IRM 13 and 17 are on different channels, so there are still 3 operable IRMs on each channel, the minimum required for a startup. IRM 13 must be bypassed in order to reset the 1/2 scram. (Per NRC exam review, reworded one distractor)

83 **ID: Q #83 RO** **Points: 1.00**

Which of the following is the reason to minimize the time the RCIC system is operating with pump flowrates of less than 400 gpm?

Flows less than 400 gpm may:

A. cause cycling of the turbine exhaust check valve, possibly causing damage to the exhaust piping.

B. cause high turbine temperatures due to lack of flow for steam cooling of turbine components.

C. cause cycling of the minimum flow valve, routing water into the torus.

D. result in inadequate pump seal cooling water flow causing pump seal damage.

Answer: A

Question 83 Details

Question Type:	Multiple Choice
Topic:	Question #83 (RO) SR-1300-K28
System ID:	
User ID:	Q #83 RO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 1300-02, R. 22
User Text:	217000G2.1.32
User Number 1:	3.40
User Number 2:	3.80
Comment:	LN.07309 (79082) Bank question. Fundamental. RCIC ops less than 400 gpm may cause exhaust valve cycling, damaging the exhaust piping.

84 **ID: Q #84 RO** **Points: 1.00**

The plant is operating at 100% power, steady state conditions, with all systems operable when the following alarms are received at the 901-3 panel:

E-14 ACOUSTIC MON SAFETY-RELIEF VALVES OPEN.
E-16 VALVE LEAK DET SYS TEMP.

Based on the information available, what should be the operators next response per QCOA 0203-01, FAILURE OF A RELIEF VALVE TO CLOSE OR RESEAT PROPERLY?

A. Cycle the affected valve key switch between MANUAL and AUTO.

B. Initiate suppression pool cooling.

C. Place the affected valve key switch to the OFF position.

D. Scram the reactor per QCGP 2-3.

Answer: C

Question 84 Details

Question Type:	Multiple Choice
Topic:	Question #84 (RO) SR-0203-K26
System ID:	
User ID:	Q #84 RO
Status:	Active
Must Appear:	No
Difficulty:	2.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOA 0203-01, R. 8
User Text:	218000A3.01
User Number 1:	4.20
User Number 2:	4.30
Comment:	75723 Bank question. High Order. These annunciators are an indication of a stuck open relief valve. The immediate operator action is to take the switch to OFF. If it does not close, then scram the reactor.

85 **ID: Q #85 RO** **Points: 1.00**

Given the following plant conditions:

- Reactor vessel water level has just decreased to -59 inches.
- Reactor water level is continuing to decrease.
- Drywell pressure is 2.2 psig and steady.
- All systems are assumed to operate as expected.

Assuming no operator actions taken, how soon would the Automatic Depressurization System begin to depressurize the reactor?

A. Immediately

B. In 110 seconds

C. In 510 seconds

D. In 720 seconds

Answer: C

Question 85 Details

Question Type:	Multiple Choice
Topic:	Question #85 (RO) SR-0203-K08
System ID:	
User ID:	Q #85 RO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LIC-0203, pg. 4
User Text:	218000K5.01
User Number 1:	3.80
User Number 2:	3.80
Comment:	ILT.01607 (75805) Bank question. High Order. Just hit -59 inches, but do not have 2.5 psig in the Drywell, so the 8.5 minute (510 second) timer will start.

86 **ID: Q #86 RO** **Points: 1.00**

Given:

- Rx Power: 100%
- Rx water level: +32" and rising slowly
- Rx Pressure: 815 psig and decreasing
- No operator actions have been taken.

MSIVs should indicate _____ and the Primary Containment O2 Analyzer valves should indicate _____.

A. open; open

B. closed; open

C. open; closed

D. closed; closed

Answer: B

Question 86 Details

Question Type:	Multiple Choice
Topic:	Question #86 (RO) SRN-1603-K12
System ID:	
User ID:	Q #86 RO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LN-1603, pg. 16, 17
User Text:	223002A4.04
User Number 1:	3.50
User Number 2:	3.60
Comment:	Modified from ILT.00970. High Order. This is a Group 1 signal. The O2 valves are part of Group 2.

87 **ID: Q #87 RO** **Points: 1.00**

You have the following plant conditions:

- Drywell pressure 2.0 psig
- Drywell temperature 170 degrees F
- Torus pressure 1.8 psig
- Torus temperature 96 degrees F
- Reactor water level +30 inches
- Reactor presure 300 psig

The plant has scrammed and QCGP 2-3 is being carried out.
The RHR system was in a normal lineup at the beginning of the transient.

The Unit Supervisor orders Torus Cooling started on the "A" RHR Loop.

The RHR Loop "A" RHR SW START PERMISSIVE SWITCH 19 cannot physically be moved to the MANUAL OVERRIDE position.

Containment temperatures will:

A. decrease unless RPV Water Level reaches -191 inches.

B. increase unless the "B" RHR SW Pump is started.

C. increase unless the "B" loop of Torus Cooling is started.

D. decrease unless RPV Water Level reaches -59 inches.

Answer: D

Question 87 Details

Question Type:	Multiple Choice
Topic:	Question #87 (RO) SR-1000-K21
System ID:	
User ID:	Q #87 RO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LNF-1000, R. 7, pg. 27
User Text:	226001K3.02
User Number 1:	3.50
User Number 2:	3.50
Comment:	New question. High Order. Drywell presssure > 2.5 psig trips the RHRSW pumps. RPV water level irrelevant. "B" RHRSW pump is on the "A" Loop also. (NRC exam review. Changed DW presusre to less than initiation setpoint, so Torus cooling will run until -59 inches is reached.)

88 **ID: Q #88 RO** **Points: 1.00**

The Unit One refueling platform is traveling in the reverse direction over the reactor core with the main hoist loaded.

What will happen if the REFUELING INTERLOCK CHECK pushbutton on the 901-28 panel fails in the depressed position?

A. Bridge will NOT be able to move either forward or reverse.

B. Bridge reverse motion will stop.

C. Bridge will continue to travel towards the core.

D. Bridge trolley motion will be prohibited.

Answer: B

Question 88 Details

Question Type:	Multiple Choice
Topic:	Question #88 (RO) SR-0803-K21
System ID:	
User ID:	Q #88 RO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	1
Point Value:	1.00
Cross Reference:	QCFHP 0500-8, R. 10
User Text:	234000K3.03
User Number 1:	3.10
User Number 2:	3.80
Comment:	Bank question. High Order. This pushbutton simulates a control rod withdrawn, which will cause bridge reverse motion to stop.

89 **ID: Q #89 RO** **Points: 1.00**

How many independent 345 KV lines must be available for Unit One in Mode 3?

A. One

B. Two

C. Three

D. Four

Answer: B

Question 89 Details

Question Type:	Multiple Choice
Topic:	Question #89 (RO) SR-6100-K32
System ID:	
User ID:	Q #89 RO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOS 0005-08, R. 6
User Text:	262001K2.01
User Number 1:	3.30
User Number 2:	3.60
Comment:	ILT.06799 : NO TOPIC 78738 Bank question. Fundamental. 2 345 lines are required to ensure 2 qualified circuits between offsite and onsite. (NRC exam review. Added Mode 3 to stem, changed distractor from 5 to 4.)

90 **ID: Q #90 RO** **Points: 1.00**

Unit One 125 VDC Battery Voltage is indicated _____. It is measured _____.

A. on the 901-8 panel;
at the charger output.

B. on the 901-8 panel;
directly from the battery

C. in the Battery Room;
directly from the battery.

D. in the Battery Room;
at the charger output.

Answer: B

Question 90 Details

Question Type:	Multiple Choice
Topic:	Question #90 (RO) SRN-6900-K05
System ID:	
User ID:	Q #90 RO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LN-6900, pg. 24
User Text:	263000A4.02
User Number 1:	3.20
User Number 2:	3.10
Comment:	ILT.05526 (77709) Bank question. Fundamental. Measurement is taken directly off of the batteries.

91 **ID: Q #91 RO** **Points: 1.00**

Unit One is operating at 100% power.
The "A" SJAE Radiation Monitor fails DOWNSCALE.

In addition to the above, what redundant protection signal is required to auto close the offgas holdup valve?

A. None, the offgas holdup valve will close in 15 minutes.

B. An upscale signal from "B" SJAE Radiation Monitor.

C. None, the offgas holdup valve will close immediately.

D. EITHER a downscale OR upscale signal from "B" SJAE Radiation Monitor.

Answer: B

Question 91 Details

Question Type:	Multiple Choice
Topic:	Question #91 (RO) SR-1701-K24b
System ID:	
User ID:	Q #91 RO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LF-1701, pg. 12
User Text:	272000K4.01
User Number 1:	2.70
User Number 2:	2.80
Comment:	New question. Fundamental. 2 upscale trips or an upscale and downscale trip are required to isolate offgas. (NRC exam review. Added "In addition to the above" in the stem, added "EITHER" to the answer, deleted "ONLY" from 1 of the distractors.)

92 **ID: Q #92 RO** **Points: 1.00**

One of the Unit 2 Refuel Floor Radiation Monitors indicates 150 mr/hr.

What is the expected plant response due to this and what action would be required?
(Assume all automatic actions happen.)

A Reactor Building Vent isolation would occur on:

A. Both Units.
Verify Rx Bldg Vents isolated and investigate the cause of the High Radiation.

B. Unit 2 ONLY.
Manually start the 1/2A SBGT Train.

C. Both Units.
Manually start the 1/2A SBGT Train.

D. Unit 2 ONLY.
Verify Rx Bldg Vents isolated and investigate the cause of the High Radiation.

Answer: A

Question 92 Details

Question Type:	Multiple Choice
Topic:	Question #92 (RO) SR-5750-K26
System ID:	
User ID:	Q #92 RO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LNF-5750 pg. 9
User Text:	288000A2.04
User Number 1:	3.70
User Number 2:	3.80
Comment:	New question. High Order. An isolation signal from either unit will isolate reactor building ventilation on BOTH units. SBGT would auto start on the high rads.

93 **ID: Q #93 RO** **Points: 1.00**

The ANSO takes 1B Core Spray to pull-to lock as directed by a surveillance procedure.

The 1B Core Spray Pump is Operable:

A. since it was placed in pull-to-lock as directed by a procedure.

B. as long as an operator is IMMEDIATELY available to return the switch to normal if needed.

C. as soon as it is taken out of pull-to-lock.

D. ONLY after a satisfatory operational test on 1B Core Spray.

Answer: C

Question 93 Details

Question Type:	Multiple Choice
Topic:	Question #93 (RO) SRNLF-00-K09
System ID:	
User ID:	Q #93 RO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QAP 0300-02, R. 62 pg. 3
User Text:	G.2.1.28
User Number 1:	3.20
User Number 2:	3.30
Comment:	Bank question. Fundamental. Per QAP 0300-02, ECCS pumps are INOP when they are in PTL and are considered operable as soon as they are taken out of PTL.

94 **ID: Q #94 RO** **Points: 1.00**

Who has the specific responsibilities for approving the performance of each step during core alterations in accordance with the Nuclear Component Transfer List?

A. Nuclear Engineer

B. Shift Manager

C. Unit Supervisor

D. Nuclear Station Operator

Answer: D

Question 94 Details

Question Type:	Multiple Choice
Topic:	Question #94 (RO) SRLF-805-K10
System ID:	
User ID:	Q #94 RO
Status:	Active
Must Appear:	No
Difficulty:	2.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCFHP 0100-01, R. 18
User Text:	G.2.2.34
User Number 1:	2.80
User Number 2:	3.20
Comment:	Bank ILT.08228 : NO TOPIC user defined ID 79317 Bank question. Fundamental. The NSO is responsible for approving each move on the NCTL.

95 **ID: Q #95 RO** **Points: 1.00**

The plant has experienced a transient.
Emergency exposure limits have been authorized.
Estimated dose will be 7 Rem TEDE.

Can an individual perform work to protect the main turbine from damage? If the individual can perform this work, what will be their emergency exposure TEDE limit?

A. No, limit is 5 Rem for repair work.

B. Yes, 10 Rem

C. Yes, 25 Rem

D. Yes, 50 Rem

Answer: B

Question 95 Details

Question Type:	Multiple Choice
Topic:	Question #95 (RO) NGET
System ID:	
User ID:	Q #95 RO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	RP-AA-203 R. 2
User Text:	G.2.3.4
User Number 1:	2.50
User Number 2:	3.10
Comment:	New question. Fundamental. Limit is 10 REM TEDE for protecting valuable property.

96 **ID: Q #96 RO** **Points: 1.00**

Unit 2 was operating at 100% core thermal power when the NSO reports a loss of annunciator power.
Reactor power is lowering.
Further observation reveals that the indicating lights have been lost for the 1C & 1D and 2A & 2B RHR pumps as well as Buses 21, 23, 23-1, 25, and 28.

Why is Unit 2 Reactor Power lowering?

A. The 2A recirc pump breaker is tripped due to loss of control power.

B. The 2A Recirc Pump is coasting to a stop due to loss of MG Set oil pumps.

C. The 2B recirc pump breaker is tripped due to loss of control power.

D. The 2B recirc pump is coasting to a stop due to loss of MG Set oil pumps.

Answer: B

Question 96 Details

Question Type:	Multiple Choice
Topic:	Question #96 (RO) SR-6900-K22
System ID:	
User ID:	Q #96 RO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	1
Point Value:	1.00
Cross Reference:	QOA 6900-04, R. 21, pg. 1
User Text:	295004AA2.02
User Number 1:	3.50
User Number 2:	3.90
Comment:	LN.11863 (81316) Bank question. High Order. Symptom 1,4, and 6 of QOA 6900-04 are given.QOA 6900-04 states that 2A Recirc Pump will coast to a stop due to loss of MG set oil pumps. D1 is wrong - 2B pump is unaffected D2 and D3 are wrong loss of control power does not cause pumps to trip. / ILT.11863 replaced redundant NLO.02974

97 **ID: Q #97 RO** **Points: 1.00**

Unit 1 has experienced a small line break LOCA.
The HPCI system is OUT-OF-SERVICE.
A LOSS of normal feedwater occurs.

The RCIC system auto initiates and INJECTS into the vessel.
RCIC operates for several minutes and then TRIPS.
Several minutes later RCIC restarts and injects into the vessel.

ASSUMING no operator action, what was the cause of the RCIC turbine trip?

A. High turbine exhaust pressure.

B. Low pump suction pressure.

C. High Reactor Water level.

D. Turbine overspeed.

Answer: C

Question 97 Details

Question Type:	Multiple Choice
Topic:	Question #97 (RO) SR-1300-K20
System ID:	
User ID:	Q #97 RO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	2
Point Value:	1.00
Cross Reference:	QCOA 1300-02, R. 10
User Text:	295008AA1.05
User Number 1:	3.30
User Number 2:	3.30
Comment:	124490 Bank question. High Order. On a high reactor water level trip, RCIC will auto restart on low low reactor water level. All other RCIC trips require the operator to reset.

98 **ID: Q #98 RO** **Points: 1.00**

The Control Room has been evacuated due to a fire per QCOA 0010-05, CONTROL ROOM EVACUATION.

Operators will be dispatched to monitor Reactor Water level from the:

A. 2201(2) - 5 and 2201(2) - 6 Instrument Racks AND the ATWS level indicators in the Aux Electric Room.

B. 2201(2) - 5 and 2201(2) - 6 Instrument Racks.

C. Analog trip level indicators in the Cable Spreading Room.

D. ATWS level indicators in the Aux Electric Room.

Answer: B

Question 98 Details

Question Type:	Multiple Choice
Topic:	Question #98 (RO) SRN-EVAC-K09
System ID:	
User ID:	Q #98 RO
Status:	Active
Must Appear:	No
Difficulty:	3.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOA-0010-05, R. 21, p. 3
User Text:	295016AA2.02
User Number 1:	4.20
User Number 2:	4.30
Comment:	New question. Fundamental. On control room evac, operators are directed to monitor level from the 5 and 6 racks. The aux electric room is directed for level monitoring on a station blackout. (NRC exam review. Changed ATWS level indicators to Analog trip level indicators for the cable spread room distractor.)

99 **ID: Q #99 RO** **Points: 1.00**

Reactor Building Differential Pressure is 0.25" H_2O.
1/2 A SBGTS is operating at 4000 scfm for a monthly surveillance.
Reactor Building Ventilation failed such that all supply fans trip causing Reactor Building Differential Pressure to increase to 0.75" H_2O.

Predict the change in flow through the SBGTS.

A. Flow would decrease and remain at 3600 scfm due to increased Reactor Building Differential Pressure.

B. Flow would increase intially then return to 4000 scfm due to action of the Flow Control Valve.

C. Flow would increase and remain at 4400 scfm due to the flow restricting orifice.

D. Flow would decrease initially then return to 4000 scfm due to action of the Flow Control Valve.

Answer: D

Question 99 Details

Question Type:	Multiple Choice
Topic:	Question #99 (RO) SR-7500-K20
System ID:	
User ID:	Q #99 RO
Status:	Active
Must Appear:	No
Difficulty:	4.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LF-7500, pg. 6 & 20
User Text:	295035EA1.02
User Number 1:	3.80
User Number 2:	3.80
Comment:	New. High Order. SBGT would initially be taking a suction on an area at a lower pressure, resulting in lower flow. The flow contol valve will open to restore flow to 4000 scfm.

100 **ID: Q #100 RO** **Points: 1.00**

Unit One is operating at full power.
The 1B Service Water Pump is OOS.
Unit Two has just scrammed.
A fire is in progress in Bus 24.
Low service water pressure alarm has annunciated.

The Unit Supervisor has directed that the 1/2 service water pump be started.

Which of the following describes the correct action to take and the potential consequences from that action?

A. Start the pump from U-1 power supply,
potential for a blackout on U-1

B. Start the pump from U-1 power supply,
loss of U-2 emergency diesel generator cooling water supply

C. Start the pump from U-2 power supply,
loss of U-1 emergency diesel generator cooling water supply

D. Start the pump from U-2 power supply,
potential blackout on U-2

Answer: A

Question 100 Details

Question Type:	Multiple Choice
Topic:	Question #100 (RO) SR-3900-K21
System ID:	
User ID:	Q #100 RO
Status:	Active
Must Appear:	No
Difficulty:	2.50
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 3900-01 rv6
User Text:	600000AA2.17
User Number 1:	3.10
User Number 2:	3.60
Comment:	New question. High Order. When the 1/2 SW pump is energized from Unit 1, with a fire in Unit 2, Unit 1 is at jeopardy for a Station Blackout. (changed K/A from 600000AA2.10, 2.9/3.1 to 600000AA2.17, 3.1/3.6 due to original question deemed not appropriate to NSO. New question more appropriate for NSO and has higher K/A value per NRC exam review)

101 **ID: Q #76 SRO** **Points: 1.00**

While performing a manual TIP trace on Unit 2, an area radiation alarm of 500 mr/hr on ARM # 8 first floor reactor building and a report of steam near the TIP room are received.

The operator performing the TIP trace states that the detector was placed into REVERSE. After some time, the operator reports the IN-SHIELD light EXTINGUISHED, the VALVE OPEN light LIT, and the detector position as shown on the display window NOT changing.

The Unit Supervisor shall:

A. direct the TIP console Ball Valve Control Switch taken to the CLOSED position.

B. directs the TIP console Speed Control Switch taken to the FAST position.

C. issue the Ball Valve Override key and direct the ball valve closed.

D. issue the Shear Valve key and direct the shear valve fired.

Answer: D

Question 101 Details

Question Type:	Multiple Choice
Topic:	Question #76 (SRO) SR-0704-K26
System ID:	
User ID:	Q #76 SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 300, QCOP 0700-06
User Text:	215001 2.4.6
User Number 1:	3.10
User Number 2:	4.00
Comment:	New question. High Order. TIP is not fully retracted, so closing Ball valve is not possible. The TIP is already in reverse and no motion detected. QGA 300 step 27 directs isolation. (NRC exam review. Changed the TIP Mode Switch taken to AUTO to "issue the Ball Valve override key and direct the ball valve closed.)

102 **ID: Q #77 SRO** **Points: 1.00**

Which of the following conditions MEETS the requirement for primary containment integrity IAW Tech Specs and what is the bases?

(Assume the plant is operating at 50% power)

A. Drywell average air temperature is 148 degrees F.
This prevents exceeding Drywell design temperature during an accident.

B. Drywell average air temperature is 148 degrees F.
This prevents exceeding heat capacity limit during an accident.

C. Drywell pressure is 1.53 psig.
This prevents exceeding Drywell design pressure during an accident.

D. Drywell pressure is 1.53 psig.
This prevents exceeding pressure suppression pressure during an accident.

Answer: A

Question 102 Details

Question Type:	Multiple Choice
Topic:	Question #77 (SRO) SR-1601-K29
System ID:	
User ID:	Q #77 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	Tech Spec 3.6.1.5
User Text:	223001 2.1.33
User Number 1:	3.40
User Number 2:	4.00
Comment:	New question. Fundamental. Entry condition for drywell temp is 150 degrees F, for drywell pressure is 1.5 psig and containment must be intact.

103 **ID: Q #78 SRO** **Points: 1.00**

Unit 2 is operating at 100% power.
Instrument Maintenance reports one of the pressure switches for the MSIV low presssure isolation setpoint has drifted to 828 psig.

What is the required action and why?

Restore to within tolerance within __(1)__ hours or place the affected channel in trip to prevent:__(2)__.

A. (1) 12
(2) exceeding the fuel cladding integrity safety limit.

B. (1) 12
(2) offsite doses from exceeding 10 CFR 100 limits.

C. (1) 24
(2) exceeding the fuel cladding integrity safety limit.

D. (1) 24
(2) offsite doses from exceeding 10 CFR 100 limits.

Answer: C

Question 103 Details

Question Type:	Multiple Choice
Topic:	Question #78 (SRO) SR-1603-K32
System ID:	
User ID:	Q #78 SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	T.S 3.3.6.1 & bases
User Text:	223002G.2.2.22
User Number 1:	3.40
User Number 2:	4.10
Comment:	New question. High Order. Function 1b is a 24 hr completion time as opposed to 12. The concern is exceeding safety limit for fuel cladding integrity. (NRC exam review. Changed "inadvertant injection with LP ECCS systems to "prevent offsite doses from exceeding 10 CFR 100 limits.")

104 **ID: Q #79 SRO** **Points: 1.00**

Unit 2 is operating at 30% power.

Which of the following conditions on Unit 2 require entry into the Tech Spec for RFP/Main Turbine high level trip and why is this required?

RFP/Main Turbine High level trip setpoint is:

A. 47 inches to prevent exceeding 1% plastic strain on the cladding.

B. 47 inches to prevent exceeding peak cladding temperature on a LOCA.

C. 52 inches to prevent exceeding 1% plastic strain on the cladding.

D. 52 inches to prevent exceeding peak cladding temperature on a LOCA.

Answer: C

Question 104 Details

Question Type:	Multiple Choice
Topic:	Question #79 (SRO) SR-5651-K29
System ID:	
User ID:	Q #79 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	T.S. 3.3.2.2
User Text:	245000 2.1.33
User Number 1:	3.40
User Number 2:	4.00
Comment:	New question. Fundamental. TS is not applicable below 25% power. Setpoint value is < 50.34 inches.

105 **ID: Q #80 SRO** **Points: 1.00**

While operating in Mode One with the Bus 13-1 to Bus 23-1 cross-tie out of service, which of the following explains why Tech Specs requirements are met?

A. T-21 can supply Bus 13-1.

B. T-21 can supply Bus 14-1.

C. T-22 can supply Bus 13-1.

D. T-22 can supply Bus 14-1.

Answer: D

Question 105 Details

Question Type:	Multiple Choice
Topic:	Question #80 (SRO) SR-6500-K29
System ID:	
User ID:	Q #80 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	TS 3.8.1
User Text:	262001 2.1.33
User Number 1:	3.40
User Number 2:	4.00
Comment:	New question. High Order. Bus 13-1/23-1 xtie inop is okay because TS requires only one cross tie operable. TS requires that T-12 be able to supply BOTH 13-1 AND 14-1. (NRC exam review. Question rewritten to put bus 13-1 to 23-1 OOS in the stem and asking what is required for Tech Specs to be met.)

106 **ID: Q #81 SRO** **Points: 1.00**

Both units are refueling with no testing in progress.
The Rx Building Vents and Control Room HVAC systems isolate due to an actual signal.

This event:

A. is NOT reportable because all isolations are completed.

B. is NOT reportable because isolations are NOT required to be operable.

C. MUST be reported within 8 hours.

D. MUST be reported within 4 hours.

Answer: C

Question 106 Details

Question Type:	Multiple Choice
Topic:	Question #81 (SRO) SL-REPT-K03
System ID:	
User ID:	Q #81 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	Rep. Man. Page 27
User Text:	290003 2.4.30
User Number 1:	2.20
User Number 2:	3.60
Comment:	New question. High Order. Criteria 2 of 10 CFR 50.73(a)(2)(iv)(A) states containment isolation signals affecting containment isolation valves in more than one system. 4 hours is for RPS. (NRC exam review. Added "with no testing in progress" to the stem and to provide SAF 1.6, 1.7 & 1.8 to candidate).

107 **ID: Q #82 SRO** **Points: 1.00**

Unit 2 has the following conditions:

- Rx Water temperature is 190 degrees F.
- RPV Water level is 90 inches.
- The Mode switch is in SHUTDOWN.

An inadvertent Group 2 isolation occurs that cannot be reset. Rx Water temperature rises to 220 degrees F before being turned.

How did plant conditions change and what procedure should be entered?

A. The plant went from Mode 3 to Mode 4;
QCOA 1000-02, LOSS OF SHUTDOWN COOLING should be entered.

B. The plant went from Mode 3 to Mode 4;
QCOA 1600-02, LOSS OF PRIMARY AND/OR SECONDARY CONTAINMENT should be entered.

C. The plant went from Mode 4 to Mode 3;
QCOA 1000-02, LOSS OF SHUTDOWN COOLING should be entered.

D. The plant went from Mode 4 to Mode 3;
QCOA 1600-02, LOSS OF PRIMARY AND/OR SECONDARY CONTAINMENT should be entered.

Answer: C

Question 107 Details

Question Type:	Multiple Choice
Topic:	Question #82 (SRO) SR-1000-K26
System ID:	
User ID:	Q #82 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	TS Table 1.1-1
User Text:	Generic 2.1.22
User Number 1:	2.80
User Number 2:	3.30
Comment:	New question. High Order. When temp exceeds 212 degrees F, the Rx will go from Mode 4 to Mode 3. Due to the Group 2 and temp rise, QCOA 1000-02, Loss of Shutdown Cooling must be entered. There was not a Loss of Containment, but an inadvertant isolation.

108 **ID: Q #83 SRO** **Points: 1.00**

Given the following post LOCA conditions:

- Drywell temperature 260°F
- Reactor Building temperature 198°F
- Reactor pressure 100 psig

The following reactor water levels are noted at the same time:

Lower Wide Range	-60 inches
Fuel Zone	-70 inches
Medium Range	-50 inches
Upper Wide Range	-30 inches

Which of the above level indicators CANNOT be used in these plant conditions?

A. Medium Range and Upper Wide Range

B. Medium Range ONLY

C. Lower Wide Range ONLY

D. Lower Wide Range and Fuel Zone

Answer: A

Question 108 Details

Question Type:	Multiple Choice
Topic:	Question #83 (SRO) S-0001-K12
System ID:	106
User ID:	Q #83 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA Detail A
User Text:	G.2.1.25
User Number 1:	2.80
User Number 2:	3.10
Comment:	STA (75178) Bank question. High Order. Medium range cannot be used because level is - 53 and temp > 195. Upper wide range cannot be used because level is < 73 inches. Lower wide range can be used because level is > -301 inches. Fuel Zone can be used because level is > -303 inches. (NRC exam review. Changed upper wide range level reading to -30 inches and added rx pressure of 100 psig to the stem.)

109 **ID: Q #84 SRO** **Points: 1.00**

Which one of the following would qualify as a "Temporary Configuration Change" as defined in CC-AA-112, "Temporary Configuration Changes"?

A. A circuit card is pulled to disable an annunciator.

B. A hose is installed to drain a heat exchanger under a clearance order.

C. An electrical lead is lifted in accordance with a surveillance procedure.

D. A Service Air hose drop is being used for mantenance on a RFP.

Answer: A

Question 109 Details

Question Type:	Multiple Choice
Topic:	Question #84 (SRO) SR-PGTM-K3
System ID:	
User ID:	Q #84 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	CC-AA-112 R. 5, pg 23-25
User Text:	G.2.2.11
User Number 1:	2.50
User Number 2:	3.40
Comment:	82605 Bank question. High Order. Disabled annunciators are required to be controlled as a temp change per the table on pg. 23, the others are not.

110 **ID: Q #85 SRO** **Points: 1.00**

The Fuel Handler Grapple Operator is about to remove the last fuel bundle in a core quadrant. The NSO informs you that the count rate for the adjacent SRM is zero.

Which of the following statements is correct for this condition?

A. Fuel movements MUST cease until Instrument Maintenance troubleshoots the SRM in question.

B. Proceed with removing the last bundle, operability requirements for SRMs do NOT apply in this case.

C. Fuel movements MUST cease until the SRM reads greater than 3 cpm.

D. Proceed with removing the last bundle, it is too far from the SRM to be detected.

Answer: B

Question 110 Details

Question Type:	Multiple Choice
Topic:	Question #85 (SRO) SL-0805-K21
System ID:	
User ID:	Q #85 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	TS 3.3.1.2 & SR 3.3.1.2.4
User Text:	G2.2.27
User Number 1:	2.60
User Number 2:	3.50
Comment:	ILT.08480 (79483) Bank question. High Order. Per TS SR 3.3.1.2.4, 3 cps are not required if there are ≤ 4 fuel assemblies adjacent to the SRM and no fuel assemblies are in the quadrant. This was the last fuel assembly in this quadrant. (NRC exam review. Added "removing" to Proceed with the last bundle and added proceed with the last bundle to the correct answer and added fuel movements MUST cease to another distractor.)

111 **ID: Q #86 SRO** **Points: 1.00**

During a refueling outage, with LPRM detector replacement in progress; an LPRM detector is discovered in a trash barrel in the Reactor Building by a contractor.

RP determined that the contractor received:

- 4 Rem Whole Body
- 16 Rem to the eyes
- 25 Rem shallow dose to his right hand

What is (are) the required notification(s)?

1. A report specifying the exposure issued to the contractor.
2. Notify the NRC Operations Center via the ENS immediately, but no later than 1 hour.
3. Notify the NRC Operations Center within 24 hours.
4. Submit a written report to the NRC within 30 days.

A. 1 ONLY

B. 1 and 3 ONLY

C. 1, 2 and 4 ONLY

D. 1, 3 and 4 ONLY

Answer: D

Question 111 Details

Question Type:	Multiple Choice
Topic:	Question #86 (SRO) NGET9756
System ID:	9756
User ID:	Q #86 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	LS-AA-1110, R. 0, pg. 17
User Text:	G.2.3.1
User Number 1:	2.60
User Number 2:	3.00
Comment:	Bank question. High Order. It is required to Notify the NRC within 24 hours, submit a written report to the contractor and the NRC within 30 days. A 1 hour notification is NOT required. (NRC exam review. Changed auxiliary to reactor building in the stem. Changed one of the distractors from 1 and 4 to 1 and 3.)

112 **ID: Q #87 SRO** **Points: 1.00**

A transfer of Unit 2 clean-up phase seperator sludge to radwaste is scheduled for your shift

In order to guard against personnel exposure during the transfer:

A. both Unit 2 RWCU pumps must be in operation with both filter demins at maximum flow.

B. access to Unit 2 reactor building second floor must be restricted.

C. Unit 2 RWCU system must be secured and isolated.

D. access to Unit 2 reactor building first floor must be restricted.

Answer: B

Question 112 Details

Question Type:	Multiple Choice
Topic:	Question #87 (SRO) SN-2002-K28
System ID:	
User ID:	Q #87 SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QOP 2050-09, R. 13, pg 2
User Text:	G.2.3.10
User Number 1:	2.90
User Number 2:	3.30
Comment:	New question. Fundamental. Precaution in QOP 2050-09, D.2, restricts access to the Reactor building 2nd Floor during sludge transfer. RWCU is not mentioned.

113 **ID: Q #88 SRO** **Points: 1.00**

You are the Unit 2 Supervisor during an ATWS.
ALL RPS scram signals have been bypassed by jumper installation, the scram reset, and the eight scram solenoid group indicating lights are lit.
You have indication on the full core display that the scram valves are still open.

In order to completely close the scram valves and drain the scram discharge volume, you would direct an NSO to:

A. the Auxiliary Electric Room to de-energize ARI in accordance with QCOP 0300-28, ALTERNATE CONTROL ROD INSERTION.

B. inside the Control Room panels to de-energize ARI in accordance with QCOP 0300-28, ALTERNATE CONTROL ROD INSERTION.

C. inside the Control Room panels to de-energize the scram solenoids in accordance with QCGP 2-3, REACTOR SCRAM.

D. the Auxiliary Electric Room to de-energize the scram solenoids in accordance with QCGP 2-3, REACTOR SCRAM.

Answer: A

Question 113 Details

Question Type:	Multiple Choice
Topic:	Question #88 (SRO) SR-0500-K26
System ID:	
User ID:	Q #88 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCOP 0300-28, R 19, pg. 9
User Text:	G. 2.4.34
User Number 1:	3.80
User Number 2:	3.60
Comment:	New question. High Order. ARI is deenergized in the aux electric room IAW QCOP 0300-28. (NRC exam review. Deleted inside from 2 of the distractors.)

114 **ID: Q #89 SRO** **Points: 1.00**

IAW OP-AA-106-101, SIGNIFICANT EVENT REPORTING, which of the following situations would require notification of the Work Week Manager and the Duty Engineering Manager?

A. T-12 trips with the Unit - 1 Emergency Diesel Generator OOS.

B. Failure of SPDS.

C. S.R. 3.8.1.1 NOT completed within one hour.

D. An inadvertant 1/2 scram is received.

Answer: A

Question 114 Details

Question Type:	Multiple Choice
Topic:	Question #89 (SRO) SRNLF-00-K06
System ID:	
User ID:	Q #89 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	OP-AA-106-101
User Text:	295003 2.1.14
User Number 1:	2.50
User Number 2:	3.30
Comment:	New question. High Order. Work Week Manager notification is required upon entry into a 72 hrs or less shutdown LCO. The others do not require notifying the Duty Engineering Manager.

115 **ID: Q #90 SRO** **Points: 1.00**

Both units are operating at Full power.
On 12-13-02 at 1200, the Unit 1 125 VDC Battery average specific gravity of all connected cells is determined to be 1.1.

Which of the following describes the required action to be taken?

A. Declare the Unit One 125 VDC Battery INOP and place the alternate 125 VDC Battery in service within 72 hours.

B. Declare the Unit One 125 VDC Battery INOP and place the alternate 125 VDC Battery in service within 7 days.

C. Place the Unit One 125 VDC Battery charger on equalize and restore the Unit One 125 VDC Battery to operation within 72 hours.

D. Place the Unit One 125 VDC Battery charger on equalize and restore the Unit One 125 VDC Battery to operation within 7 days.

Answer: A

Question 115 Details

Question Type:	Multiple Choice
Topic:	Question #90 (SRO) SR-6900-K32
System ID:	
User ID:	Q #90 SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	T.S 3.8.4.C & 3.8.6.A
User Text:	295004G.2.2.22
User Number 1:	3.40
User Number 2:	4.10
Comment:	New question. High Order. 72 hours is based on time required to place the alternate battery in service. 7 days is when the battery must be restored and is based on the capacity and capability of remaining DC sources to supply the required loads. With specific gravity at 1.1, the battery is required to be declared inop per TS 3.8.6. (NRC exam review. Question rewritten to determine action and timeframe with specific gravity low.)

116 **ID: Q #91 SRO** **Points: 1.00**

Drywell pressure is 3.0 psig.
Reactor pressure is 950 psig.
Reactor water level is 24 inches lowering at 1 inch per minute with all available systems operating.
RWCU recirculation and blowdown modes are being used to control reactor pressure.
RWCU blowdown rate is 100 gpm.

What direction should the Unit Supervisor provide to the panel operators?

A. Secure RWCU blowdown and recirculation modes.

B. Secure RWCU recirculation mode and install jumpers to maintain RWCU blowdown mode.

C. Secure RWCU blowdown mode and install jumpers to maintain RWCU recirculation mode.

D. Install jumpers to maintain RWCU recirculation AND blowdown modes.

Answer: C

Question 116 Details

Question Type:	Multiple Choice
Topic:	Question #91 (SRO) S-0001-K18
System ID:	
User ID:	Q #91 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 100, Pressure Control
User Text:	295009 AA2.03
User Number 1:	2.90
User Number 2:	2.90
Comment:	New question. High Order. QGA 100 allows RWCU recirc mode bypassed. RWCU mode CANNOT be bypassed in this situation.

117 **ID: Q #92 SRO** **Points: 1.00**

Which of the following set of conditions would result in the Reactor Building to torus Vacuum Breakers opening when Drywell Sprays were initiated?

	Drywell Pressure	Drywell Temperature
A.	6 psig	200 degrees F
B.	6 psig	300 degrees F
C.	8 psig	200 degrees F
D.	8 psig	300 degrees F

Answer: B

Question 117 Details

Question Type:	Multiple Choice
Topic:	Question #92 (SRO) S-0001-K12
System ID:	
User ID:	Q #92 SRO
Status:	Active
Must Appear:	No
Difficulty:	2.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 200, Detail K
User Text:	295012 AA2.02
User Number 1:	3.90
User Number 2:	4.10
Comment:	New question. High Order. 6 psig and 300 degrees F are the only conditions left of the DSIL curve, all others are to the right. (NRC exam review. Changed 250 degress F to 300.)

118 **ID: Q #93 SRO** **Points: 1.00**

Which of the following combinations of equipment will satisfy Tech Spec definition of two operable RHR Shutdown Cooling subsystems WITHOUT reliance on either RHR or RHRSW Cross-tie Valve. (Assume closed and inoperable).

	RHR Pumps	RHR/RHRSW Heat Exchanger	RHRSW Pumps
A.	A & B	A	A & B
B.	A & C	A	A & C
C.	B & C	B	B & C
D.	B & D	B	B & D

Answer: A

Question 118 Details

Question Type:	Multiple Choice
Topic:	Question #93 (SRO) S-1000-K33
System ID:	
User ID:	Q #93 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	TS 3.4.7, 3.4.8 & Bases
User Text:	295021G.2.2.25
User Number 1:	2.50
User Number 2:	3.70
Comment:	New question. High Order. Bases requires 1 RHR pump, 1 HX and 1 RHRSW pump for a subsystem. The answer is the only example that contains 2 subsystems.

119 **ID: Q #94 SRO** **Points: 1.00**

The reactor was operating at 100% power when a leak occurred in the Drywell.
The reactor was manually scrammed at 2.0 psig.
All rods fully inserted.

Current plant conditions include the following:

- RPV pressure is 920 psig and lowering slowly.
- RPV level is 0" and rising slowly.
- Drywell pressure is 5 psig and rising.
- Drywell temperature is 225 degrees F and rising.
- Torus pressure is 16 psig and rising.
- Torus level is 13 feet.
- Torus sprays are operating.
- Drywell sprays have NOT been attempted.

WHICH of the following actions is required to be performed next per the QGAs?

A. Continue spraying the Torus.

B. Spray the Drywell.

C. Perform an RPV Blowdown.

D. Vent the Primary Containment.

Answer: C

Question 119 Details

Question Type:	Multiple Choice
Topic:	Question #94 (SRO) S-0001-K24
System ID:	
User ID:	Q #94 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 200
User Text:	295028EA2.05
User Number 1:	3.60
User Number 2:	3.80
Comment:	New question. High Order. RPV blowdown required due to about to exceed PSP. CANNOT spray the Drywell due to being to the left of the DSIL curve. Cannot vent because at this point there is no direction to exceed off-site release rates. (NRC exam review. Removed reason for spraying the drywell and changed one of the DW spray distractors to continue spraying the Torus.)

120 **ID: Q #95 SRO** **Points: 1.00**

The following post LOCA conditions are present:

- All Rods in.
- The only operable ECCS pump is 1B Core Spray.
- Reactor pressure is 275 psig and slowly lowering.
- Reactor level is being maintained at -150 inches by:
  - 2 Condensate/Condensate Booster pumps with a combined flow of 0.5 MLBM/hr.
  - 1B Core Spray pump with a flow of 4600 GPM.
- Hotwell level is being maintained by Standby Coolant injection.
- All Torus water level indication has failed, however LI1-1640-21 "Primary Containment Water Level indicates 16.75 feet and rising.

What is the next required action and why?

A. Start both remaining condensate pumps to raise reactor water level above the top of active fuel.

B. Initiate SBLC to raise reactor water level above the top of active fuel.

C. Secure all operating injection pumps because adequate core cooling is assured.

D. Secure the condensate pumps because adequate core cooling is assured.

Answer: D

Question 120 Details

Question Type:	Multiple Choice
Topic:	Question #95 (SRO) S-0001-K24
System ID:	
User ID:	Q #95 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QGA 100 and 200
User Text:	295029EA2.03
User Number 1:	3.40
User Number 2:	3.50
Comment:	New question. High Order. Per the EOP basis, one core spray pump injecting at 4600 gpm is adequate core cooling. (NRC exam review. Changed one of the condensate booster pump distractors to say initiate SBLC.)

121 **ID: Q #96 SRO** **Points: 1.00**

Torus level is lowering as indicated on the narrow range torus level indication.

Which of the following list the HIGHEST Torus level during operation in Mode 1 which would require entering a Tech Spec LCO and why?

A. -1" due to excessive suppression pool TEMPERATURE during a DBA LOCA.

B. -1" due to excessive suppression pool SWELL LOADS during a DBA LOCA.

C. -3" due to excessive suppression pool TEMPERATURE during a DBA LOCA.

D. -3" due to excessive suppression pool SWELL LOADS during a DBA LOCA.

Answer: C

Question 121 Details

Question Type:	Multiple Choice
Topic:	Question #96 (SRO) SR-1601-K29
System ID:	
User ID:	Q #96 SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	TS 3.6.2.2 and bases
User Text:	295030G2.1.33
User Number 1:	3.40
User Number 2:	4.00
Comment:	New question. High Order. TS bases 3.6.2.2, pg. 1 states that lower volume in the Torus would result in less steam energy being absorbed before heating up excessively. Higher level results in excessive swell loads. Torus TS level is + or - 2 inches.

122 **ID: Q #97 SRO** **Points: 1.00**

Torus level was normal when a large unisolable leak developed on the bottom of the Torus

Which of the following describes the expected change in Drywell to Torus delta-P and the validity of the safety analysis?

Drywell to Torus Delta-P will increase until Torus level reaches _(1)_ and then equalize.

Safety analysis assumptions are valid until Torus level reaches _(2)_.

	(1)	(2)
A.	5'	11'
B.	5'	14'1"
C.	11'	11'
D.	11'	14'1"

Answer: D

Question 122 Details

Question Type:	Multiple Choice
Topic:	Question #97 (SRO) S-1601-K33
System ID:	
User ID:	Q #97 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	T.S. 3.6.2.2 & Bases
User Text:	295030EA2.04
User Number 1:	3.50
User Number 2:	3.70
Comment:	New question. Fundamental. Downcomers are 3.67 to 4 feet below the surface of the Torus. This means the downcomers will be uncovered at ~ 10 feet, at which point Drywell to Torus DP will stop increasing. TS 3.6.2.2, pg 2 states that safety analysis conditions are not met if Torus water level is outside of the limits.

123 **ID: Q #98 SRO** **Points: 1.00**

Field teams have been dispatched due to a Radioactivity Release.
The field teams are located as follows:
Field Team #1 is at the Cribhouse.
Field Team #2 is 15 feet East of Highway 84 and Site Access Road intersection.
Field Team #3 is at the Meteorological Tower.
Field Team #4 is at the Hydrogen Farm.

Which of the following describes which Field Team(s) is (are) OFF-SITE for the purposes of Emergency Classification?

A. Field Team #2 ONLY.

B. Field Teams #2 & #3.

C. Field Teams #2 & #4.

D. Field Teams #3 & #4.

Answer: B

Question 123 Details

Question Type:	Multiple Choice
Topic:	Question #98 (SRO) S-GSEP-P01
System ID:	
User ID:	Q #98 SRO
Status:	Active
Must Appear:	No
Difficulty:	3.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	ODCM, Figure 1
User Text:	295038EA2.01
User Number 1:	3.30
User Number 2:	4.30
Comment:	Bank question (Clinton 2002 exam #125) High Order. The Cribhouse and Hydrogen Farm are all considered on site. The East side of Rte. 84 and the Met Tower is off-site. (NRC exam review. Added ONLY to Field Team #2 distractor. Changed all Field Teams to Field Teams 2 & 3 for the answer.)

124 **ID: Q #99 SRO** **Points: 1.00**

According to Tech Specs Bases, fuel handling is restricted with low fuel pool levels because during a refueling accident _____ could not be assumed.

A. absorbtion of water soluable fission product gasses

B. net positive suction head for fuel pool cooling pumps

C. adequate cooling of irradiated fuel bundles seated in the reactor vessel

D. adequate cooling of irradiated fuel bundles seated in the spent fuel pool

Answer: A

Question 124 Details

Question Type:	Multiple Choice
Topic:	Question #99 (SRO) SL-801-K33
System ID:	
User ID:	Q #99 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	TS Bases 3.7.8 R. 0 pg. 1
User Text:	295023AA2.02
User Number 1:	3.40
User Number 2:	3.70
Comment:	New question. Fundamental. Absorbtion of water soluable fission product gasses per TS 3.7.8 pg. 1.

125 **ID: Q #100 SRO** **Points: 1.00**

In order for the Fire Diesels to be considered operable, __(1)__ Diesel Engine must be capable of auto starting and driving its associated fire pump.

__(2)__ Diesel Driven Fire Pump(s) must be operable in order to consider the Fire Protection Water Supply System operable.

	(1)	(2)
A.	One;	One
B.	One;	Each
C.	Each;	One
D.	Each;	Each

Answer: C

Question 125 Details

Question Type:	Multiple Choice
Topic:	Question #100 (SRO) S-4100-K32
System ID:	
User ID:	Q #100 SRO
Status:	Active
Must Appear:	No
Difficulty:	4.00
Time to Complete:	0
Point Value:	1.00
Cross Reference:	QCAP 1500-01, R17, D.5,6
User Text:	600000G2.2.25
User Number 1:	2.50
User Number 2:	3.70
Comment:	New question. Lower. This is per QCAP 1500-01 and not a TS bases because fire prot. was removed from TS. When discussed at outline submittal, permission was given to keep this KA and ask a question on the admin procedure. In order for both Fire Diesels to be considered operable, they both must be operable. One Fire Diesel is required to be operable in order for fire suppressio to be operable.